

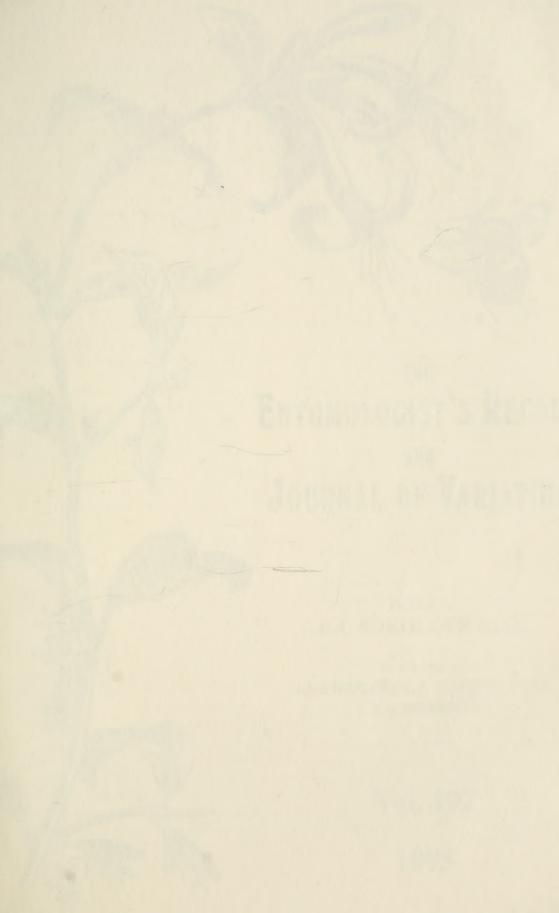
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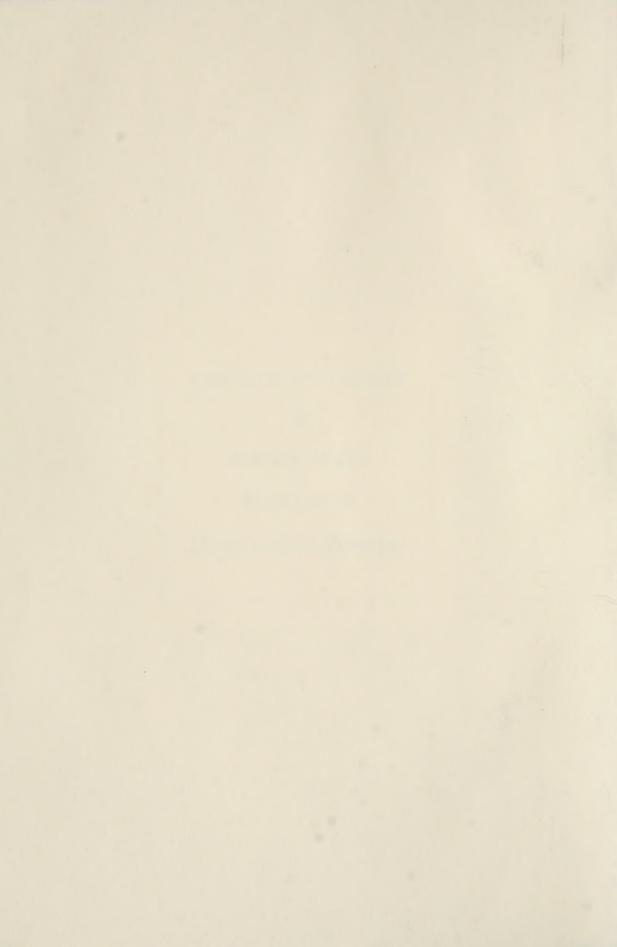
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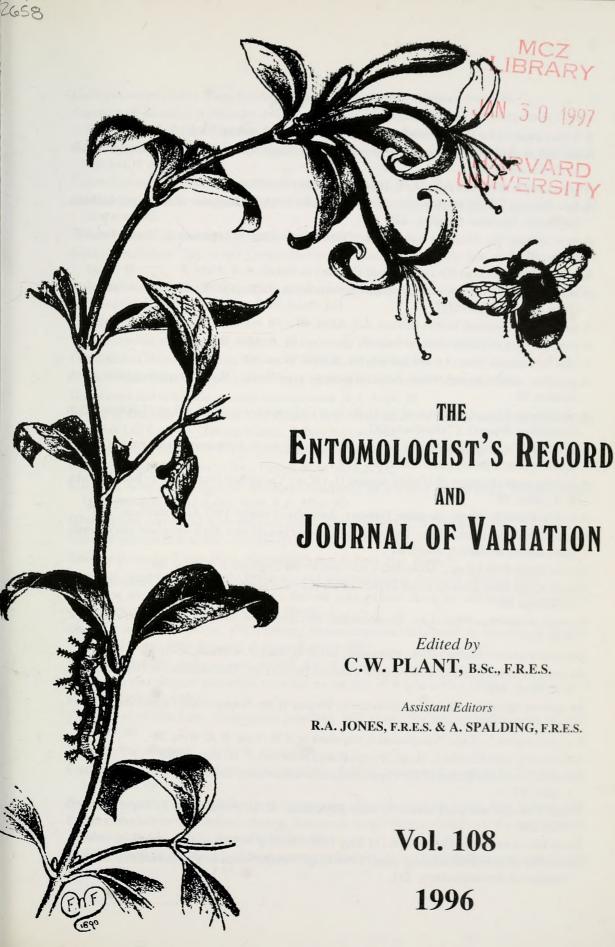
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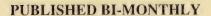
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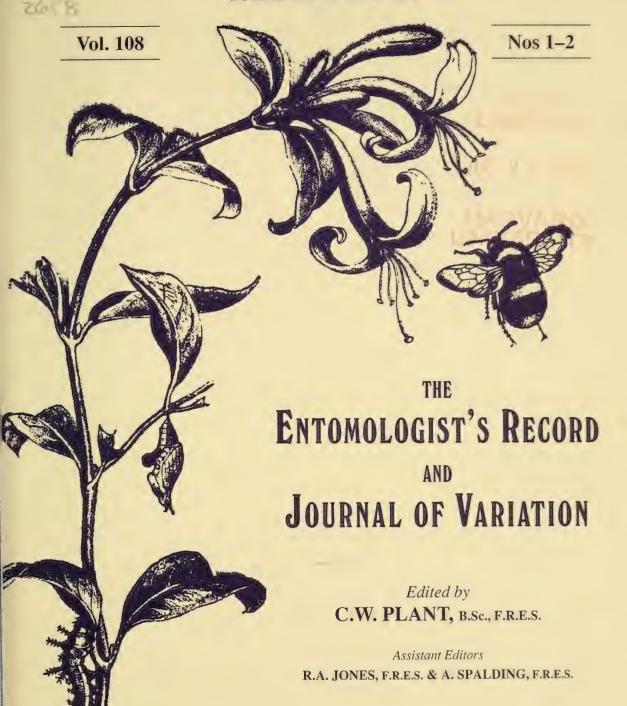
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January/February 1996

ISSN 0013-3916

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# EUROLEON NOSTRAS (FOURCROY, 1785) A BRITISH SPECIES AND NOTES ON ANT-LIONS (NEUROPTERA: MYRMELEONTIDAE) IN BRITAIN

HOWARD MENDEL

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BARBUT (1781) was first to recognise "Myrmeleon formicarum" as a British species. Stephens (1829) likewise included "Myrmeleon formicarum" as British, although he had never seen a British specimen. However, reconsidering the evidence he commented that it was "Erroneously introduced as British by Barbut" (Stephens, 1835). Hagen (1858) was of the opinion that it was very probable that "Myrmeleon – and probably more than one species – occurs in England". McLachlan (1865) was more cautious and whilst not ruling out the possibility that they might await discovery on the south-west coast of Ireland asserted "they are at any rate absent from England, and I doubt if we can lay the slightest claim to including them in our fauna." No species of ant-lion was included by Killington (1936 and 1937) in his monograph on the British Neuroptera. To bring things up to date, Plant (1994) records that:

"Two species of ant-lion have a slight claim to 'British' status. One [Euroleon nostras (Fourcroy)] occurs in Jersey, but is apparently absent from both Britain and Ireland, and the other, [Myrmeleon formicarius L.] was recorded as a single specimen in Suffolk in 1931, and has not been recorded since."

The discovery of three specimens of *Euroleon nostras* in Suffolk in 1994 and subsequent reappraisal of historical records make it necessary to redefine the status of ant-lions in Britain.

# Myrmeleon formicarius Linnaeus, 1767

"A fine male *Myrmeleon formicarius*, Linn., was found in Gorleston on 5th September 1931. I was then unsuccessfully working the south face of a favourite range of palings for Micro-Lepidoptera. . . . The insect was clinging to the paling at about thirty inches from the ground, in an apparently torpid condition" (Doughty, 1931).

The insect was identified by Claude Morley who, in a footnote to Doughty's report, does not rule out the possibility that it might be native: "All Gorleston, including the spot of capture at a few hundred yards southwest of the ry station, stands upon glacial sand, not dissimilar from that of Fontainbleu Forest where *M. formicarius* abounds". The find was of such general interest that a lengthy report appeared in the local newspaper in which Morley describes the possibility of the insect having been "merely blown across the intervening seventy miles of sea" from the Continent as "an extremely improbable contingency" (Morley, 1932).

The specimen is preserved in the Morley Collection (R.1953-22) at Ipswich Museum. It is labelled in Morley's hand "5.ix.1931 Sitting sluggard on paling in Gorleston (*Tr. Suff. Soc. 31*)". It has obvious dark markings on the wings and is *Euroleon nostras* (*teste* C.W. Plant) and not *M. formicarius* which has entirely clear wings.

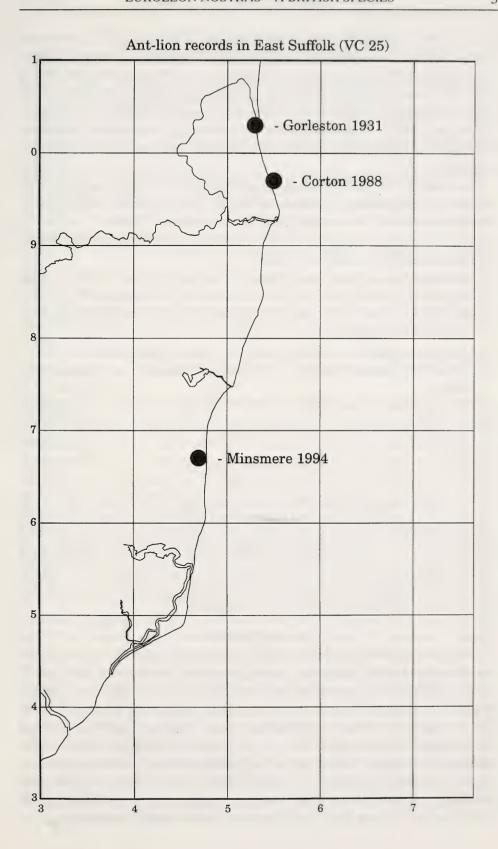
It is not difficult to understand how the Gorleston specimen was misnamed by Morley. For many years in Britain the name "formicarius" was applied to the ant-lion with spotted wings that we now know as E. nostras. Barbut (1781) describes "Myrmeleon formicarum" as having wings "diaphanous, adorned with a network of black fibres, charged with feveral blackifh-brown fpots, rather large, efpecially towards their outer edge" and dark wing markings are clearly shown in his figures of the insect (plates 12 and 22). According to Stephens (1835) M. formicarius has "Wings hyaline, spotted with fuscous". Hagen (1858) states that M. formicarius has "fore wings with a white stigma and black spots; hindwings with two black spots on the costa". Morley (1932), possibly following Hagen, comments that M. formicarius is "well distinguished by the conspicuous smokey spots upon its otherwise quite transparent wings". It is unclear whether or not Killington, who also reported the capture (Killington, 1932), actually saw the specimen.

Early references are best treated as unreliable and in any case should probably be referred to *Euroleon nostras*. In summary, there is no substantive record of *M. formicarius* from the British Isles. It has no place on our list.

# Euroleon nostras (Fourcroy, 1785)

When Colin Plant telephoned me with an invitation to attend a field meeting that he had planned (Plant, 1992) to search for ant-lions along the East Anglian coast, I made polite excuses and mentally wrote the venture off as misguided! After all, as far as was generally known, there had been only a single record and that as long ago as 1931. The field meeting went ahead but was unsuccessful. However, it was not long before I had to revise my thoughts.

On 21 July 1994 Hilary and Geoff Welch (Warden of Minsmere RSPB Reserve) found two adult ant-lions on the road to the reserve, near the toilet block (TM471671, VC25). One of them was brought to me for identification (Mendel, 1994) and proved to be *E. nostras*. The other which was injured/deformed with a "kink in the abdomen" was released. It is interesting to speculate that it might have been deformed rather than injured which would have made migration from the Continent most unlikely. A third specimen was found squashed on the floor of the toilet block on 31 August 1994 by D. Fairhurst (Assistant Warden). The toilets were cleaned daily so the specimen could not have been there for long. Identification of the latter specimen was confirmed by Mr S.A. Brooks and Dr P.C. Barnard of the Natural History Museum, London.



It is now established that the Gorleston (TG5203, VC25) specimen captured by C.G. Doughty on 5th September 1931 is also *E. nostros*. There is a further Suffolk record. Dr A.G. Irwin has kindly provided me with a copy of a note he wrote with T.R. Mitchell recording a specimen of *E. nostras* that flew into a house in Corton, near Lowestoft (TM5496, VC25) on 29 August 1988. It was photographed before being released and identified from the photographs by Dr Irwin. The note was never submitted for publication.

Excluding earlier records which are unreliable, *E. nostras* has now been recorded at three localities in East Suffolk (VC25) over a period of 63 years. The localities are all near to the coast, within a span of 25 miles.

How can these records be explained? There are four possibilities which are not necessarily mutually exclusive.

- 1. Occasional specimens are brought over from the Continent with vegetables or other goods, or in some other way "ship-assisted".
- 2. Individuals arrive in Britain as genuine migrants, perhaps helped by freak weather conditions.
- 3. Occasional migrants establish temporary breeding populations.
- 4. There is a long-established, indigenous population surviving at low density.

If the specimens found in Britain were "ship-assisted" it is very difficult to explain the concentration of records on the Suffolk coast. Similarly if they were genuine migrants. *E. nostras* is found widely on the Continent occurring nearest to us in northern France, Belgium and the Netherlands (Aspöck, H., Aspöck, U. & Hölzel, H., 1980). If the Suffolk records were the result of migration, why are there no records from Norfolk, Essex and Kent? *E. nostras* is a weak flier and not a recognised migrant. The concentration of records in Suffolk suggests a native population surviving at low density. The sandy soils of the Sandlings and Suffolk coast provide apparently ideal breeding habitat. However, larval pits need to be found, to be certain that the species is breeding in the area. I am sure it is only a matter of time. In any case, *E. nostras* deserves a place on the British list.

# Acknowledgments

I thank Hilary and Geoff Welch (RSPB, Minsmere) for bringing two of the ant-lions found at the Minsmere Nature Reserve to the Museum and Dr A.G. Irwin (Norfolk Museums Service) and Mr T.R. Mitchell for making available their unpublished manuscript. For confirming my identification of C.G. Doughty's Gorleston specimen I thank Mr C.W. Plant (National Recorder for Neuroptera), and for checking my identification of one of the Minsmere specimens I thank Mr S.A. Brooks and Dr P.C. Barnard (Natural History Museum, London). I further thank Colin Plant for valuable comments on the first draft of this manuscript. The map was produced by Mr M.N. Sanford (Suffolk Biological Records Centre, Ipswich Museum).

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# Malachius aeneus (L.) (Col.: Melyridae) in Cambs. and elsewhere

Cambridgeshire is not among the rather numerous counties listed for this attractive species, now much decreased and classed as "rare" (Hyman & Parsons, 1992, A review of the scarce and threatened Coleoptera of Great Britain. part 1: 360). It is therefore worth reporting that the late C.E. Tottenham found it profusely at a restricted site within the bounds of Cambridge about 1950 or 51. It was along a hedgerow bordering a field, which he pointed out to me, where the beetle was still common (mostly males) on 25.v.52. This is the sole record for East Anglia that I can find.

Otherwise I have met with *M. aeneus* only singly: Brockenhurst, New Forest, 21.vi.35, a male and Cheshunt, Hertfordshire, 12.vi.40, a female. The site, by the river Lea, was a productive one which I constantly revisited in that and later years without seeing another. I have also a male taken in this district (Shooters Hill, West Kent) by my late friend A.W. Gould in May 1952; it was on an umbel, probably of *Anthriscus*, in a lane bordering the golf-course, where I have often collected in subsequent years. Though unchanged, *M. aeneus* seems unlikely to survive there.— A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

### Photedes pygmina (Haw.) (Lep.: Noctuidae) in N.W. Kent

On 2 August 1995 (a very early date) four specimens attended my garden m.v. light. For the nineteenth century Chalmers-Hunt *Butterflies and Moths of Kent* (1964) states that the moth was common locally at Lee, and also at Paul Cray Common only about three miles away until 1920. However, there appear to be no previous records for the well-worked Bexley/Dartford area. C.W. Plant *Larger Moths of the London Area* (1993) quotes no records for the Kent section of this region for the period 1980-1991; indeed for the past sixty years there is but one record, for Lee in 1954.

I suspect that these 1995 specimens did not originate locally, but came from further afield in a night of dispersal. K. Williamson (*Ent. Rec.* **68**: 95) reported a specimen on Fair Isle, 30.viii.1955, during a period of bird and insect migration. Were other specimens reported in places where the moth was thought to be absent, on 2 August 1995? However, unaccountably, or perhaps belying my suggestion, a further pale specimen appeared at the garden light on 1 September. All but one, which was dark reddish brown, were pale specimens.— B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

### Nymphalis antiopa (L.) (Lep.: Nymphalidae) in N.W. Kent

In the long absence of the annual review of immigrant macro-lepidoptera perhaps a sighting of a Camberwell Beauty is worth recording now. On 23rd August 1995 I watched a specimen as it repeatedly circled one of my neighbour's apple trees, sometimes deviating from its course to fly over a little pile of fallen apples, but it did not settle, nor did it show interest in the flower beds. Its mode of flight was not as expected; it did not resemble the bold, erratic flight of *Vanessa atalanta* (L.), but instead progressed with a curious shallow flapping motion, quite fast and maintaining a steady course even when eventually it flew across my garden and away. Even in flight its whitish borders were conspicuous.— B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

# Craniophora ligustri (D. & S.) (Lep.: Noctuidae) in N.W. Kent

It was suggested by Chalmers-Hunt (*Butterflies and Moths of Kent*, 1965) that this species, not having been noted in the region since the turn of the century, was perhaps extinct here. I reported specimens, all the melanic ab. *coronula* Haw., at my garden m.v. light in 1969, 1984 and 1986 (*Ent. Rec.* 99: 184). For the period 1980-1991 C.W. Plant (*Larger Moths of the London Area*, 1993) confirms the moth's status as very rare in the London region, with no records north of the River Thames, and mine the only ones for the Kent portion. Therefore, the arrival of three more specimens at the light in 1995, on 10 July (2) and 20 July, confirm the insect's continued presence; however, significantly in view of the decline in atmospheric pollution these specimens were of the normal form, and not melanic.

- B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

# HYPOKOPELATES BOORMANI – A NEW LYCAENID FROM NIGERIA (LEPIDOPTERA: LYCAENIDAE)

#### TORBEN B. LARSEN

258 Coldharbour Lane, London SW9 8PL.

JOHN BOORMAN, author and co-author with Patrick Roche of the only books dealing with Nigerian butterflies, kindly invited me to study his collection, which includes much material from eastern Nigeria collected by F. Davey in the 1950s. Among the many butterflies was a new species of *Hypokopelates* Druce, 1891 which I am pleased to name after Mr Boorman. His books were my only resource during my first visit to West Africa in the early 1960s.

#### Hypokopelates boormani sp. nov.

Male upperside: Forewing 17mm. The upperside ground-colour and markings are almost exactly like *H. eleala* Hew., as are the white androconial brushes of the forewing underside and the hair-pencil lying against vein 2 of the hindwing. These are typical for a large section of closely related species. The only differences are that the forewing veins are not blackened to the same extent, and the blue lacks the slight hint of green of *H. eleala*. Other members of this section are usually slightly smaller.

Male underside: The underside is white and has all the normal features of the *H. eleala* section, except that the usual, narrow black-edged orange discal band is entirely missing, including the small portion on the hindwing connecting the anal eye-spot with the margin. On the forewing the slight submarginal line is closer to the margin than in other members of the section (Fig. 1).

Male genitalia: The uncus of the male genitalia (prep. BCU) is shown in Fig. 2 and is entirely typical for the genus; Stempffer (1967) says that they are similar and "do not even present useful specific characters". There are clear differences from the genitalia of *H. eleala* (Prep. BCS), especially in the larger uncus/tegumen and wider vinculum.

Male holotype: Eastern Nigeria, F. Davey leg., in the Natural History Museum, London.

Unfortunately much of the Davey material is not labelled. There is a slight possibility that the specimen is from one of Davey's visits to areas that are now in Cameroun. However, most of his evident material from these trips is labelled as such.

#### Discussion

Many members of the genus are scarce in collections and the discovery of a new species is not very surprising, but when faced with a single male, the possibility of an aberration needs to be considered. I find this unlikely for the following reasons:

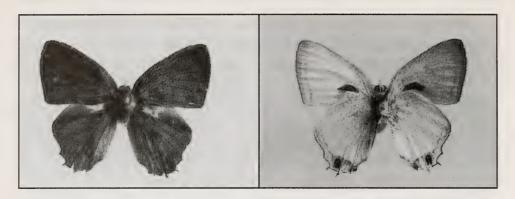


Fig. 1. Upperside (left) and underside (right) of the male holotype of *Hypokopelates boormani*.

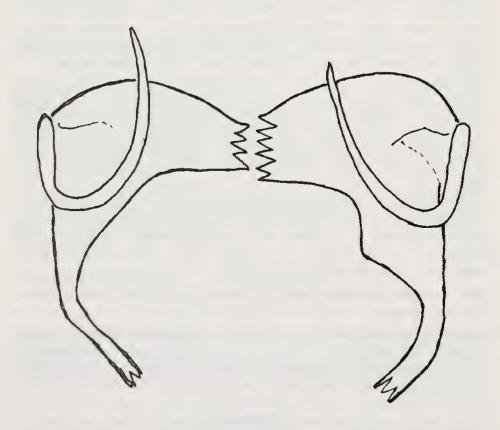


Fig. 2. The uncus/tegumen structures of  $Hypokopelates\ boormani$  (prep. BCU) right and  $H.\ eleala$  (prep. BCS) left.

- 1. the genitalic differences are too strong for intra-specific variation;
- 2. the complete disappearance of the orange discal bands is not correlated with the other, admittedly minor, differences from *H. eleala*;
- 3. the complex anal eye-spot and the red line stretching to the anal lobe and up the abdominal fold remain completely unaffected, and;
- 4. I have not seen anything similar in the thousand *Hypokopelates* and many thousand *Hypolycaena* Felder, having the same pattern, that I have seen in nature and collections. Most aberrations of this type, were it to be an aberration, tend to be of a recurring nature.

#### Acknowledgements

This is paper number eight based on advance studies for the book *Butterflies of West Africa – origins, natural history, diversity, and conservation*. I am grateful to the Carlsberg Foundation and the Danish National Research Councils for support. I would like to thank John Boorman for access to his collection. The continued collaboration of the Natural History Museum, London is deeply appreciated.

#### Reference

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# Epuraea thoracica Tourn. (Col.: Nitidulidae) new to Kent

Epuraea thoracica Tourn. (= oblonga sensu Fowler) is a rare species with a restricted habitat, occurring under conifer bark probably always with barkbeetles (Scolytidae). Southern records are few, isolated, and mostly old; midland and northern ones are rather less scattered. The Scottish Highlands are its British headquarters; I took a single specimen at Aviemore in July 1938. The only records I can trace for a south-eastern county are Shirley (Rye) and Chobham (Champion), both Surrey localities.

I was therefore much surprised to find just lately that a male *Epuraea* taken by me at Shooters Hill near here (7.vii.1990) and carelessly passed at the time as *E. pusilla* (Ill.), was in fact a far more interesting find: an undoubted *E. thoracica*. Foremost among its specific characters are the very fine, shallow, and dense puncturation and, in the male, the *rather sharply angled* swelling at the inner apex of the mid-tibiae. The beetle was found under thin bark on a blown-down pine bough, in which were galleries of *Tomicus piniperda* (L.); the situation was at the top of a wooded slope with three or four mature Scots pines, forming part of what is now Oxleas Wood SSSI. The fallen limb was removed after a few weeks, when the small *Tomicus* brood had already died out.— A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

# A striking male character of *Uleiota planata* (L.) (Col.: Cucujidae) overlooked in British works

I think it worth drawing attention to a remarkable sexual character in this beetle, upon which our standard authors – notably Fowler (1889; *Coleoptera of the British Islands*, Vol. 3) and Joy (1932; *A practical handbook of British beetles*) – are silent, a fact possibly not unconnected with the great rarity of the insect as British in their time. In the male, a pair of slender sickle-shaped horns, upraised and incurved, arise from the extreme base of the mandibles; making it a matter of the upmost ease to distinguish the sexes. The horns are blunt, of equal thickness throughout, yellowish or at all events paler than the adjacent parts. In my British males they are more conspicuous and less mandible-like than in the figure of that sex in Freude, Harde and Lohse (1967; *Die Käfer Mitteleuropas* 7: 93).– A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

#### Rhodometra sacraria (Linn.) (Lep.: Geometridae) - flight time

The finding of a male specimen of *Rhodometra sacraria* in the light-trap here from the very misty night of 11 October 1995 raised again the question of the usual flight-time for this species (Aston, 1994, *Ent. Rec.* **106**: 195). On a night when the mist gathered heavily and early it seems likely that the insect flew in soon after dark: that crepuscular habit was noted in Suffolk in 1947, both on stubble and at house-light, but the 1994 evidence here seemed at variance. It would, however, appear that the insect is mainly observed at dusk or soon after dark.— Alasdair Aston, Wake's Cottage, Selborne, Hampshire GU34 3JH.

# Two uncommon *Ptenidium* spp. (Col.: Ptiliidae) at Oxleas Wood, West Kent

*P. intermedium* Wank.: one in dry bed of stream under debris of cut bracken, 10.x.1985. A fairly typical habitat for this rather rare but widespread riparian species, and doubtless the nearest occurrence to the metropolis so far.

P. gressneri Er.: discovered in some numbers (9.vii.1986) in damp and rather sappy wood-mould and decayed wood in a partly hollow oak; not found again, but has not since been properly worked for and is almost certainly still present. (The tree has been a productive one for insects over the years.) Again, the situation is typical for P. gressneri (and also for P. turgidum Thoms., which did not occur). This should be the first record in the immediate environs of London of the former species, classed as a grade 2 old-forest indicator.— A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

# ON THE MORPHOLOGY OF BASAL HINDWING RECTO BLACK SCALES IN SOME PAPILIONIDAE (LEPIDOPTERA: RHOPALOCERA)

RALF H. ANKEN AND DIRK BREMEN

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#### Introduction

ONE OF THE principal characters used in taxonomic studies on butterflies is the morphology of the male genital apparatus. It is highly conserved within species, and therefore its anatomical investigation normally leads to a correct identification of a given specimen with regard to its specific status. Nonetheless, sibling species can frequently only be discerned from each other by considering long series of each taxon, taking into account a variety of geographical, ecological and morphological features, particularly concerning the morphology and biology of immature stages. With regard to adult and preserved specimens, as mostly found in collections, however, nothing but the genital apparatus and the outer appearance can be subjected to comparative investigations since geographical and ecological information upon preserved specimens are normally kept to the minimum and the larval stages are often not known. Most recently, the senior author of the given paper found that the morphology of homologous scales (Squamulae) in the sibling species *Pieris rapae* Linnaeus and *P. napi* Linnaeus, all taken on the same occasion in south-western Germany, obviously varied according to their shape (Anken, 1995). The noted differences between the scale morphology were therefore regarded as a species-distinctive feature, both species being discernible from each other by the shape of scales rather than by the morphology of the genital apparatus.

The present study was undertaken in order to add some information to the question, to what extent homologous scales differ in more or less closely related non-sibling species. Therefore, some species of several genera of Papilionidae were squamologically investigated.

### Material and methods

The following species (males only) were investigated: *Papilio machaon* Linnaeus (Germany), *Iphiclides podalirius* Linnaeus (Italy), *I. feisthamelii* Duponchel (Portugal), *Zerynthia polyxena* Denis & Schiffermüller (Yugoslavia), *Z. rumina* Linnaeus (Portugal), *Parnassius mnemosyne* Linnaeus (Switzerland), *P. apollo* Linnaeus (Switzerland).

The protocol to take scales follows Anken (op. cit.). In brief, the black scales to be investigated were taken from the basal recto hindwing surfaces by a moistened brush. After having been transferred to microscopical slides, they were allowed to dry and were subsequently coverslipped using Hydromatrix (wasserlösliches Einschlussmittel, Micro-Tech-Lab, Graz, Austria). Before being used for another specimen, the brush was carefully cleaned. From each species, at least three individuals were squamologically

analysed. Therefore, at least thirty individual scales per individual were drawn using a camera lucida (Zeiss, Oberkochen, Germany) equipped binocular light microscope (Standard 14, Zeiss) at a magnification of 400x. The drawn series-images (called SI in the following) were coded, compared to each other and any observations were noted. The coding was employed in order to prevent the experimenter knowing the specific name of an SI, which might unwillingly have lead to biased results. The observations having been done, the results obtained were attributed to the respective species. The SIs in the figures of the given study comprise randomly-chosen scales of randomly-chosen individuals of each species. In the course of extensive preliminary examinations, it had been found out that such short SIs are satisfactorily suited for demonstrating the general morphological appearance of the scales of a given species.

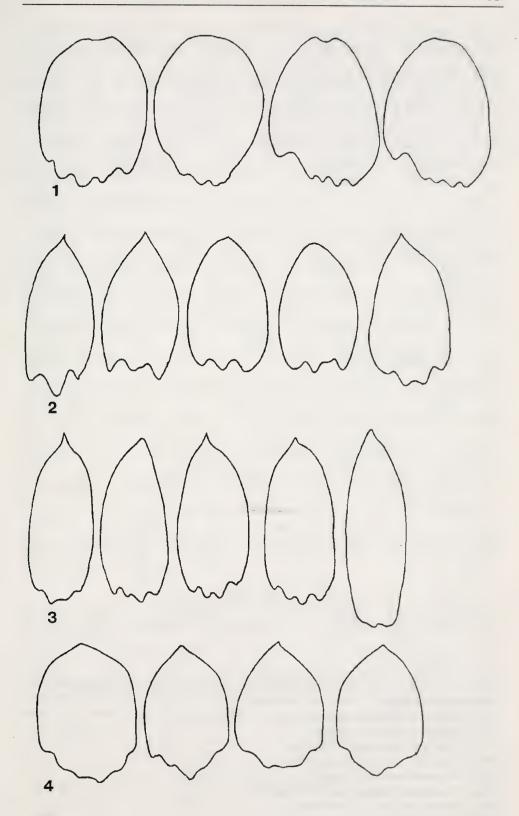
#### Results

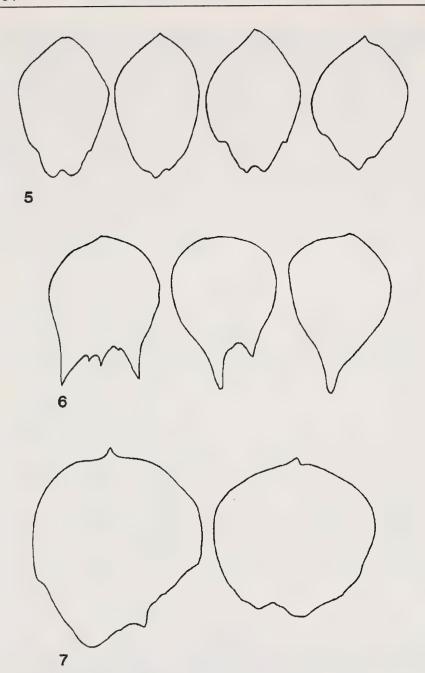
Representive SIs of homologous basal hindwing recto black scales of the species investigated are given in Figs. 1-7. All scales analysed reveal an apical field with more or less pronounced protrusions (processi), which vary among the same individual and from species to species. As can be taken from Fig. 1, Papilio machaon had broad scales with a narrow apical field in its rostrocaudal extension, revealing several, but not well-pronounced protrusions. Homologous scales in Iphiclides spp. (Figs. 2 and 3) differ strikingly from the ones of P. machaon in being considerably narrower, especially in *I. feisthamelii* (Fig. 3). The apical protrusions in this species are as little pronounced as they are in P. machaon, therewith differing from the process of I. podalirius (Fig. 2). Homologous scales of Zerynthia polyxena (Fig. 4) somewhat resemble the ones of P. machaon in outer shape, but are smaller and differ in having a triangle-like apical field that is also found in Z. rumina (Fig. 5). The latter scales clearly differ from those of Z. polyxena in their more rhomboid-like silhouette. The scimitar-like processi in Parnassius mnemosyne (Fig. 6) rule out any misidentification as do the extremely large scales of P. apollo (Fig. 7).

#### Discussion

It is obvious, that a microscopical investigation on wing scales of European Papilionidae is merely academic, since these species can be easily discriminated from each other by outer appearance.

Nevertheless, it is intriguing, that they are discernible from each other by the shape of scales. Moreover, the grade of similarity regarding scales reflects the grade of similarity concerning the outer appearance and the systematical positions. Both *Zerynthia* spp. analysed can be readily discerned by scale features but they both remarkably differ from the representatives of the other genera, as do the Apollos and the Scarce Swallowtails. An investigation of scales may therefore not only be one of





Figs. 1-7: Series-images (SIs) of black basal hindwing recto scales of different European Papilionidae species.

- Fig. 1. Papilio machaon (Germany).
- Fig. 2. Iphiclides podalirius (Italy).
- Fig. 3. Iphiclides feisthamelii (Portugal).
- Fig. 4. Zerynthia polyxena (Yugoslavia).
- Fig. 5. Zerynthia rumina (Portugal).
- Fig. 6. Parnassius mnemosyne (Switzerland).
- Fig. 7. Parnassius apollo (Switzerland).

Magnification: x400.

some importance regarding the discrimination of sibling species (comp. Anken, op. cit.), but may also bring some additional clues and insights into phenomena such as evolutionary pressures that generate particular wing patterns and particular scale morphologies. Grodnitsky and Kozlov (1991) pointed out that the scaly wing covering of butterflies as a whole might be based on its thermoregulatory capacity, thus being most variable in endothermic moths in contrast to ectothermic Rhopalocera. According to Grodnitsky and Kozlov (1991) the wing scales of the members of the genus Parnassius Latreille are disposed so sparsely that they are most unlikely to protect an animal from any heat losses.

The given study indicates that the particular morphology of scales of Apollo butterflies strongly differs from those of other Papilionid species. With that, it may be assumed that the scale morphology in Apollos is rather due to functionally indifferent evolutionary radiations than to an adaption to thermoregulatory pressures, because the thermoregulatory properties of the scaly wing covering of a butterfly must directly be due to the particular scale morphology. Since functionally indifferent evolutionary radiations may be of a higher taxonomic value than simple climate-generated ones (so far, it cannot be ruled out that the same evolutionary pressure regarding thermoregulation resulting in similar scale coverings may occur in systematically totally unrelated and geographically distant living species), the grade of taxonomic value of the morphology of scales may be presumed to be depending on their respective thermoregulatory capacity. So far, it can therefore be stated that the outer appearance of butterfly wing scales is not only to some extent influenced by the geographical/climatical environment (Grodnitsky and Kozlov 1991, Anken 1995) as are wing patterns and genitalia of a given species, but, moreover, seems to be species-specific, at least in such butterflies that do not extensively need scales for thermoregulation (as moths and, to some extent, Nymphalidae and Satyridae do; Grodnitsky and Kozlov 1991).

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# Sympetrum dragonflies (Odonata: Libellulidae) in Great Yarmouth – a migration?

A visit to the Great Yarmouth (Norfolk) main cemetery on 5 August 1995 confirmed the presence of the rarest of British dragonflies, the vagrant darter *Sympetrum vulgatum* (Linnaeus), first noted on 1 August by Peter Milford. This dragonfly is best identified face on, where the black "handlebar" moustache across the top of the frons continues down along the inner margins of the eyes. This feature can still be very difficult to see clearly as it is usually obscured by the eyes, and it is widely accepted that individuals need to be trapped for verification. However, in my opinion this feature can be seen in the field given close patient study and surreptitious stalking of the insect with close-focusing binoculars. It is slightly smaller than the common darter, *S. striolatum* (Charpentier), being slightly constricted in the middle of the abdomen, and the yellow areas on the thorax are suffused with red (olive on the female).

With previously recorded numbers extremely low, only eight according Hammond (1983, *The dragonflies of Great Britain and Ireland*), it has perhaps been overlooked due to its similarity to *S. striolatum*.

A male and female were observed keeping excellent company with numerous yellow-winged darters, *S. flaveolum* (Linnaeus), another infrequent immigrant, with only three records in the 1980s (*Norfolk Dragonfly Survey*, 1989).

S. flaveolum has spread widely inland since its arrival all along the east coast (some 200 individuals), with sightings in the first week of August from Bedfordshire (Willington, Stuart Pittman, Mike Watson and Steve Cham), Hertfordshire (Ickleford/Hitchin, Mike Watson) and Tring Reservoirs (Rare Bird Alert), Leicestershire (Rare Bird Alert), and Alvecote Pools Warwickshire/Staffordshire borders (Brian Mitchell) moving swiftly onto the west coast at Kenfig, South Wales and Heysham, Lancashire.

The black darter, *S. danae* (Sulzer), a species very rare in Norfolk due to its preference for acid bogs was also in the churchyard, undoubtedly migrant. Added to this, the almost ubiquitous ruddy darter, *S. sanguineum* (Müller) was also present, but had not been seen there until as recently as 1993. The large numbers may suggest immigration as postulated in Mendel (1992, *Suffolk Dragonflies*).—Stuart Pittman, 101 Old Hale Way, Hitchin, Hertfordshire SG5 1XR.

# Catocala fraxini (Lep.: Noctuidae) in Northumberland, VC68

I have received from Andy Baxter, Chief Warden of the Farne Islands an interesting record of the Clifden Nonpareil *Catocala fraxini* noted on Inner Farne on 3.ix.1995. Although recorded in the past from Northumberland, it is uncommon for such an irregular immigrant to be noted on a relatively bleak offshore island.— R.H.L. Dennis, 4 Fairfax Drive, Wilmslow, Cheshire SK9 6EY.

# Hazards of butterfly collecting - tribal life in Hermel, Lebanon, 1972

The semi-deserts of Hermel, way north of Baalbek in Lebanon's Beqaa Valley, with the tall, snow-clad Lebanon and Amtilebanon ranges on either side, clearly deserved a visit. Here was a real chance of getting some of the special arid zone species of the Syrian and Jordanian deserts, not yet recorded from Lebanon, especially *Euchloe falloui* Allard, one or two of the genus *Tarucus* Moore, and perhaps *Syrichtus poggei* Lederer, But most of all, I had my sights set on the beautiful *Zegris eupheme* Esper, with its disjunct distribution in Spain and North Africa, and again in the Middle East and Central Asia.

The Hermel district, unfortunately, was not stable during my time in Lebanon. The area was tribal, much given to blood-feuding during most of the year, except when there was too much snow and during the brief spring agricultural season, when the hashish fields had to be tended. The government of President Franjieh – perhaps one of the most improbable heads of state quasi-democracy has ever thrown up – had decided to force an end to blood-feuds by military means, in order to enforce the "law of the land" throughout the country. At times even the air force was used.

This is not a culturally sensitive way of going about social change. Blood-feuding was part of the traditional pattern, and all residents in the area promptly united to oppose the government – physically – to enforce their right to kill each other in time-honoured fashion. Blood-feuding could be resumed in good time.

Nonetheless, I made arrangements to go, a local doctor promising to put us up and give us a guide. Beirutis know little about – and care less for – the tribals in Hermel. Our friends were horrified to hear of our plans; few thought they would ever see us again.

We were well received by the Soviet-trained doctor, with whom conversation was only possible in broken French, and discussed where to go next day, as well as local customs, over a delicious meal of lemon chicken. Suddenly shooting broke out – and the doctor was called away to treat a casualty. A vivid introduction to daily life in Hermel.

The next day we explored the banks of the Orontes river, clad in the emerald green of spring, in contrast to the desolate desert and bare mountain flanks. We found a thriving colony of *Tarucus balkanicus* Freyer and many other interesting things. At the end of the day I am almost sure I saw *Zegris eupheme*; without catching it I did not include it in my book (1974. *Butterflies of Lebenon*. CNRS, Beirut). I have since seen the species in the Atlas Mountains and in the Jordan Valley; I am now sure that this was what it was.

That evening the doctor insisted that we go up the mountains to a village inhabited exclusively by people for whom an arrest-warrant for murder had been issued. Here were supposedly butterflies, but we were also to check on

reports that previously unknown cuneiform rock inscriptions had been found. We would be issued with a bodyguard.

Off we went at the crack of dawn, with a huge "minder", armed with a Kalashnikov, a shotgun, and a pistol. Could I please keep the latter in the glove-compartment till we had passed the army check-point (pistols being illegal, rifles not)? I wondered how to talk myself out of that if it were found out, but the soldiers waved us past.

We had tea in the village, our minder proudly recounting when, why and how each man had become wanted for murder. They all stayed in the village during the summer when the army could move, going back to Hermel to spend winter with their families.

It was much too early in the year for butterflies at this level, so we set off in search of the inscriptions. They turned out to be a natural rock feature, so our hopes of archeological glory were dashed. Nearby, though, we saw Nebuchadnezzar's impressive stele, which says: "I cut through steep mountains, I split rocks, and thus I constructed for Marduk, my Lord, a straight road for the transport of the cedar . . . to carry mighty cedars, high and strong, of precious beauty and excellent dark quality, the abundant yield of Lebanon". Today remain – at least I very much hope they do – just a few bedraggled stands of Cedar.

On our way back, we discussed conditions with our bodyguard: "What would happen if we came here by ourselves to camp?" We would be perfectly safe. We would be honoured guests. No problem. I'm sure he was right. "But, then, why are you armed to the teeth?" "Ah. I have many enemies", after which he squeezed his ample torso out of the window of our orange VW-beetle to take pot-spots at the odd hare or two. An interesting concept in bodyguards!

I never managed to get back to Hermel. I would have loved to have done so. But you may now officially add *Zegris eupheme* to the Lebanese checklist.—TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 9PL.

# Two species of micro-moth new to the Isle of Wight

Peter Cramp took an example of the Pyralid *Phlyctaenia perlucidalis* (Hübn.) in his light trap at Godshill on 27 July 1995 and I recorded a specimen of *Anacampsis blattariella* (Hübn.) at m.v. light at Freshwater on 22 July 1995. Neither of these species has been recorded from the Isle of Wight before.— S.A. KNILL-JONES, Roundstone, 2 School Green Road, Freshwater, Isle of Wight.

# Contact wanted in Spain

I would like to contact any lepidopterists who live in or around Valencia, Spain, to exchange notes and information.— G.B. STEVENS, Urb. Pla. de les Clotxes 11, Apt. de Correos 20, 46450 Benifayo, Valencia, Spain.

#### THE BROWN ARGUS BUTTERFLY: HYBRIDS OR NO HYBRIDS

BILL SMYLLIE

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#### Introduction

A PAPER ON THE above butterfly (Shreeve, 1993) is entitled "Confusing the geographic variation within species of Aricia for hybridisation". Referring to the major factor of lunulation (though this is not specifically mentioned), Shreeve maintains that variation "is interpreted in relation to past events (Smyllie, 1992a) . . . but can be more readily explained as adjustments to current conditions (Dennis and Shreeve, 1989)". There is however in this criticism no distinction between the lunulation data generated and any attempt at an explanation. "Current conditions" mentioned above refers to a time-band of say 1000 years which is short in relation to the period since the last ice-age. Data on upper forewing lunulation has been generated largely from museum collections which span the last 70 years or less, together with photographs and field checks in the last five years. There is no evidence of inconsistencies during this time-band. which is the present as far as geological time is concerned. These data are quite independent of any theory or theories which purport to explain the position, whether they are finally seen to be correct or incorrect. Facts as they are today are recorded, not the position as it might have been at some time in the past, not as it might be at some time in the future. Whether the Aricia in Britain and further afield can be considered a range of hybrids, or whether the present species and sub-species adequately cover the situation as Shreeve maintains will be determined by the accumulation of suitable relevant facts.

In Shreeve's comments there is no mention of what might be called phased emergence, where lumulation starts high and decreases through the flight period. This phenomenon is a present fact, and in view of its importance four examples will be mentioned out of several possibilities.

"Adjustments to current conditions" as postulated by Dennis and Shreeve are accepted as a general principle, although there are difficulties with the Brown Argus in England thrown up by lunulation data which will be mentioned below. Lastly the status of *artaxerxes*, *salmacis* and *agestis* is discussed briefly.

# **Phased Emergence**

1. Although in cross-breeding experiments larvae were normally reared in continuous light (Jarvis, 1969), details of growth under normal conditions were given in an experiment where Reading (agestis) females were backcrossed with second generations hybrid males via Sherburn (salmacis) males and Reading females. The resulting larvae showed variation from

agestis colouring at one end of the spectrum leading to pupation before the winter, to diapause in more than one instar where increasing allous features coincided with slower development. The scene is set here for butterflies with agestis lunulation, ie well lunulated ones, preceding others with increasing allous features, ie reduced lunulation, during next year's flight period.

- 2. Lunulation reduction later in the flight period was noted in the field at Watlington Hill in the Chilterns in 1989, a bivoltine *agestis* colony.
- 3. Regular field checks during 1992 confirmed that during the flight period at a univoltine Peak District site lunulation gradually drifted downwards (Smyllie, 1993).
- 4. A similar but more widespread variation is recorded for Sandhammeren, South Sweden (Høegh-Guldberg, 1966) where there is a bivoltine emergence sandwiching a poorly lunulated univoltine one. The bivoltine is however not as well lunulated as *agestis*, and the total lunulation figures are similar to the Durham coast (Smyllie, 1995).

The above four examples, which include a cross-breeding example, indicate a link between lunulation variation between individuals and different emergence times which in turn are related to inputs from different ancestors in the more remote past.

## **Geographic Variation**

"Adjustments to current conditions" as postulated by Dennis and Shreeve seem reasonable. This is a general theory which does not have to take specific data into account: there are however difficulties when lunulation data is examined for the Brown Argus in England. The lunulation characteristics of the Peak District (Smyllie, 1992a) and subsequently the Yorkshire Wolds (Smyllie, 1992b) show that the colonies there are agestis. Both are univoltine – the climate has presumably deteriorated to cause the change from bivoltine, and yet there has been no perceptible change in lunulation due to total site aspects. If there had been this would have reflected in an increased percentage of lower or 0-lunule specimens, particularly since at Grassington, due west of the Yorkshire Wolds and no higher than the Peak District, the 0-lunule male component is as high as 30%. It is perhaps pertinent to mention in this context that at Coombs Dale in the Peak District, the colony there has responded to the excellent weather in July and August 1995 by producing a significant second brood: so also has the Common Blue.

With the exception of lunulation at the start of the change from *agestis* (at Pickering, North Yorkshire and Perthichwareu, North Wales) Durham has two extremes in lunulation. At Hart Warren (CC: CP=0.15 Smyllie, 1992a), lunulation is by far the lowest in England. This ratio – Combined *Crassilunulata*: Combined *Parvilunulata* is obtained by combining 50% of

male and female lunule figures where male C have 5 or 6, male P have 0-4; female C have 6, female P 0-5. It gives a numerical figure for the degree of lunulation at any site or area, the higher the figure the better the lunulation and vice-versa. *Crassilunulata* and *Parvilunulata* were descriptive words coined by Jarvis for well and poorly lunulated specimens respectively. The figure for *agestis* colonies is five minimum.

The colony at Hart Warren is the most southerly of those on the Durham coast, and is relatively sheltered. At Castle Eden Dene it is much more exposed. Why should the Hart Warren colony be so poorly lunulated? – it should be at least as well lunulated as those further north along the coast, but this is not the case. Move all of 17km inland to Sherburn Hill and a totally different lunulation pattern is encountered. At CC:CP=1.74 it has the highest figure of all the various salmacis colonies. It is submitted that total site aspects cannot account for the lack of variation at the Peak District and Yorkshire Wolds sites, and at the same time a vast variation at two sites relatively close together in Durham. One point should be made here concerning photoperiods. This is not necessarily pertinent to the present discussion, but may prove important on a wider front. For the two most divergent examples of lunulation in Durham these must be virtually identical. This means that quoting photoperiods as a limiting factor cannot be a valid point in discussing migration. At the end of the day changes have occurred, and even if there were any initial photoperiod problems, these have been overcome. To revert to "total site aspects", they have not had a large enough impact on Peak District colonies to cut out 6-lunule or increase 0lunule specimens. The factors controlling phased emergence have to be much more important than "total site aspects" in the case of the Brown Argus.

# Species and Sub-species

Turning now to aspects of sub-species and nomenclature, the Scottish submain morphological species artaxerxes artaxerxes has three A. characteristics; the upper forewing discal spot is white, pupilation on the underwings is lacking in most specimens, and lunulation varies. It is known that occasional "whitespots" can occur in central and southern England, also southern Sweden (Higgins and Riley, 1970). What occurs in southern English counties is a Mendelian distribution of white scales in the upper forewing discal spot ranging from a complete absence in 70% of males and 36% of females, through small numbers to a point where the centre is circled with white (var. albiannulata) and onwards to the occasional whitespot. The most simple explanation for this is that all white scales stem from artaxerxes and that there is a diminishing artaxerxes presence radiating from Scotland southwards to southern England and eastwards to southern Sweden. When underside spots are examined the situation is less easy to quantify. Over 80% of specimens from the Aberdeen area showed no pupilation to the naked eye. However with a hand lens significant numbers of dark scales were noted in the centres of spots in all specimens examined. This mirrors the occurrence of dark scales in the mainly white discal spots. When specimens from north Lancashire, the Peak District and the Isle of Wight were examined, the pupilation (measured by the dark centre as a percentage diameter of a spot and averaged out) increased only slowly from north to south (40 to 50+%). Even in the Isle of Wight the average was only a little over 50%, and since 50% linear is 25% by area, the white scales accounted for c70% and were in a comfortable majority. This is merely a straw in the wind, but it points in the same direction as other aspects mentioned, rather than against them. It may also point to a greater *artaxerxes* content than hitherto suspected.

In south-west and south-east Scotland the lunulation has increased to a point where it is very similar to that in Castle Eden Dene (the classical salmacis site) and north Lancashire SD47, and is distinctly greater than at Hart Warren. In any one artaxerxes specimen there will be an intermingling of all three characteristics, but they must be in some sort of equilibrium. If lunulation is regarded as the dominant morphological factor in view of phased emergence detailed above there is a case for including southern Scotland in *salmacis*. Shreeve has criticised the publication of a map (Smyllie, 1992a) which includes zones described as "agestis + low%" artaxerxes", "artaxerxes + low% agestis" and "artaxerxes + significant percentages of agestis" with the comment that they are both good species. From his point of view this criticism is valid. However in a paper highlighting what is considered to be interpenetration on a scale not previously recorded, it is reasonable to draw attention to the component parts of "species". Take the case of agestis. There is a difference between agestis in southern England, and what is also described as agestis across the Channel in France. This difference consists in the presence and absence respectively of varying numbers of white scales in the discal spots described above. Which of the two is the more genuine agestis? They are certainly not identical. The complications with artaxerxes have already been referred to. There is probably no simple answer, and there is room for differing viewpoints in a complex situation. The contention (Smyllie, 1995) that both artaxerxes and salmacis consist of a range of intermediates between allous and agestis, ie a range of hybrids, remains in place. This might be called a cline, but "intermediates" is favoured because of the dappled situation particularly in Durham. In this situation artaxerxes was formed from allous by an event which created white discal spots particularly on the upper forewing, and also removed pupilation from underwing spots. Subsequent interpenetration has given rise to Mendelian distributions in upper forewing lunulation, discal spot white scales in agestis, discal spot dark scales in artaxerxes, and underwing spot pupilation.

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# The rise and fall of melanic Peppered Moths *Biston betularia* L. (Lep.: Geometridae)

The rise and fall in frequency of melanic (form *carbonaria* Jordan) Peppered Moths, *Biston betularia* Linn., is one of the best documented examples of observable evolutionary change. Melanic frequencies of 90% or more were recorded in and around areas of heavy industry and were maintained at this level until the late 1970s when a decrease in frequency began. The decrease has continued and at one site a melanic frequency of over 90% in 1959 has fallen to less than 18% in 1995. Similar changes have occurred and are still occurring in the American subspecies, *Biston betularia cognataria*. Indeed the melanic form may be decreasing at a rate of 1-2% a year which means that it will disappear unless some sort of stability occurs.

Because of the exceptional interest of evolution in the Peppered Moth, I suggest that in 1996 a special effort is made to record the frequencies of all three forms: typical, *carbonaria* and the intermediate *insularia* Thierry-Mieg. We need information from as many sites as possible from throughout the British Isles. The moth is readily caught in m.v. and similar traps. Many of us run traps in our gardens and it is from these that the best records are likely to be obtained as sample sizes should be adequate for numerical analysis.

I would be delighted to receive records from the 1996 season, either in the form of a list of frequencies of typicals, *carbonaria* and *insularia*, or papered specimens which I can then score. In this way we should be able to build up a picture of the present status of melanism in the Peppered Moth which can be compared with the past situation. If left much longer, it may be too late. I look forward to hearing from moth trappers prepared to participate in this project in 1996.— Denis F. Owen, 42 Little Wittenham Road, Long Wittenham, Abingdon, Oxfordshire OX14 4QS.

# The status of the Silurian moth *Eriopygodes imbecilla* (Fabricius) (Lep.: Noctuidae) in Monmouthshire in 1995

The Silurian Eriopygodes imbecilla was discovered in Britain in 1972 by Neil Horton and subsequently reported as resident in 1976 (Ent. Rec. 88: 246-248, Ent. Gaz. 24: 219-222). It was found to inhabit a gulley in the uplands of Monmouthshire, since which time a number of Britain's keenest and most adventurous lepidopterists have visited the gulley to see the insect and obtain specimens. The moth has still not been reported away from the vicinity of the original gulley however. Concerned that the moth would be extremely vulnerable both to accidental fires and to over-collecting, if confined to the gulley, Countryside Council for Wales (CCW) commissioned a survey of the surrounding area in 1995. Nearby gulleys were searched and light-trapped and it is a pleasure to report that the moth was found in good numbers in the known gulley and in three others immediately to the north and in one to the south. Further afield, the moth was found in a gulley in the next water catchment to the north but not in several gulleys visited to the south, even though one looked most promising and was light-trapped all night in good weather. The moth is now known to occur over an area four kilometres in extent from north to south. It is likely it is more widespread because there are other areas of similar habitat as yet unsearched.

Where the moth occurs it can be numerous, as many as fifty occurring in one trap per night. Interestingly, all seen were males and almost all arrived late in the night, well after midnight. Of a hundred moths collected up from two light traps and marked with a small spot of paint, only 19% were recaptured when the site was revisited two nights later, though the overall catches were as large as before. Only one marked moth turned up four nights after the first visit, though the species was still plentiful. This indicates that the marked moths were a small fraction of a very substantial population. On the basis of the distribution and size of the population(s), the current level of collecting, which appears to be no more than a few specimens on one or two nights in one place only and not every year, poses no threat to the species and could become a useful means of ensuring that the presence of the moth and the condition of the habitat continue to be monitored frequently, at a time when funding for such work is extremely limited.

Silurian moths were also trapped some distance from the gulleys, though not in such large numbers. A start has been made on an ecological study which will continue into 1996 with the aim of establishing the preferred breeding conditions and larval foodplants in the wild in Britain, which are not currently known. In Germany and Sweden the larvae have been found feeding on *Galium* spp., specifically *G. boreale* in Sweden (*British Wildlife* 3: 307) and observations made this year suggest *Galium saxatile* is a strong candidate in Monmouthshire.

During the Silurian study important records and new sites for other noteworthy moths were obtained. For example the Grey Scalloped Bar

- 2006 *Pheosia gnoma* Fabr. Lesser Swallow Prominent Common resident; feeds on Birch.
- 2007 *P. tremula* Cl. Swallow Prominent Common resident; larva feeds on Poplar, Aspen and Sallows.
- 2008 Ptilodon capucina Linn. Swallow Prominent Common resident; larva feeds on Hawthorn, Birch, Hazel and many other deciduous trees.
- 2011 *Pterostoma palpina* Cl. Pale Prominent Common resident; larva feeds on Poplar, Aspen and Sallow.
- 2014 *Drymonia dodonaea* D. & S. Marbled Brown Common resident; larva feeds mainly on Oak.
- 2019 Clostera curtula Linn. Chocolate Tip Widely distributed in southern and eastern England. Mr A. Kolaj recorded a female from which a series was bred; larva feeds on Aspen, Poplar and Willow.

#### LYMANTRIIDAE

- 2026 Orgyia antiqua Linn. The Vapourer A day-flying species generally distributed throughout the British Isles; larva feeds on most deciduous trees and shrubs.
- 2028 Calliteara pudibunda Linn. Pale Tussock Common resident; larva feeds on Birch, Oak, Elm and many deciduous trees.
- 2029 Euproctis chrysorrhoea Linn. Brown Tail
  Common resident; larva feeds on Bramble, Sallow, Hawthorn and many other trees and shrubs, and readily sheds hairs which can cause irritation.
- 2030 E. similis Fuess. Yellow Tail
  Common resident; larva feeds on Hawthorn, Blackthorn, Sallow and many other trees and shrubs.

#### **ARCTIIDAE**

- 2033 Lymantria monacha Linn. Black Arches
  Distributed throughout the southern half of Britain; larva feeds mainly on Oak.
- 2037 *Miltochrista miniata* Forst. Rosy Footman Common resident; larva feeds on lichens growing on the stems and branches of trees.
- 2044 *Eilema griseola* Hb. Dingy Footman Common resident; larva feeds on lichens.

- 2047 *E. complana* Linn. Scarce Footman Common resident; larva feeds on lichens.
- 2050 E. lurideola Zinck. Common Footman Common resident; Larva feeds on lichens.
- 2057 Arctia caja Linn. Garden Tiger Common resident; larva feeds on a wide variety of wild and cultivated plants.
- 2058 A. villica Linn. Cream-spot Tiger
  Common resident; larva feeds on a wide variety of herbaceous plants.
- 2060 Spilosoma lubricipeda Linn. White Ermine Common resident; larva feeds on a wide variety of herbaceous plants.
- 2061 *S. lutea* Hufn. Buff Ermine Common resident; larva feeds on a wide variety of plants and trees.
- 2064 *Phagmatobia fuliginosa* ssp. *fuliginosa* Linn. Ruby Tiger Common resident; larva feeds on Dock, Dandelion and various other plants.
- 2067 Euplagia quadripunctaria Poda, Jersey Tiger
  A local species confined mainly to Devon and a common resident although the species was not abundant in 1994; larva feeds on Common Nettle, Hemp Agrimony, White Deadnettle and various other plants.
- 2068 *Callimorpha dominula* Linn. Scarlet Tiger Common resident; larva feeds on many plants including Evening Primrose, Ragwort and Bramble.
- 2069 Tyria jacobaeae Linn. The Cinnabar Common resident; larva feeds on Ragwort, Evening Primrose and wild garden varieties of Senecio.

#### NOLIDAE

- 2076 Meganola albula D. & S. Kent Black Arches Common on the Warren; larva feeds mainly on Dewberry but it must have an alternative foodplant as this moth is so common on the Warren.
- 2077 Nola cucullatella Linn. Short-cloaked moth Generally distributed throughout England and Wales. Recorded by Mr and Mrs Normand in July 1983; larva feeds on Hawthorn, Blackthorn, Apple and Plum.

#### **NOCTUIDAE**

- 2081 Euxoa tritici Linn. White Line Dart Common resident; larva feeds on various small herbaceous plants.
- 2085 Agrotis vestigialis Hufn. Archers Dart Common resident; larva feeds on a variety of grasses and low plants.

- 2087 A. segetum D. & S. Turnip Moth
  Common resident; larva feeds on the roots and lower parts of root vegetables.
- 2088 A. clavis Hufn. Heart & Club

  Common resident; larva feeds on the leaves and roots of various herbaceous plants.
- 2089 A. exclamationis Linn. Heart & Dart Common resident; larva feeds on a wide variety of wild and cultivated plants.
- 2090 A. trux Hb. Crescent Dart
  Locally common from the Isle of Wight to Cornwall and north to
  Wales; an inhabitant of coastal cliffs. Captured twice in 1995 and six
  noted on 24.6.1995, with further records on 28.6.1995.
- 2091 A. ipsilon Hufn. Dark Sword-grassA migrant species that is common most years; larva can be a pest on Wheat and Cotton on the Continent.
- 2092 *A. puta* Hb. Shuttle-shaped Dart Common resident; larva feeds on a wide variety of herbaceous plants.
- 2093 A. ripae Hb. Sand Dart Common resident; larva feeds on Prickly Saltwort, Chenapodium spp. and Sea Rocket.
- 2098 Axylia putris Linn. The Flame
  Common resident; larva feeds on a wide variety of low growing plants.
- 2102 Ochropleura plecta Linn. Flame Shoulder Common resident; larva feeds on Plantain, Dock and many other plants.
- 2107 *Noctua pronuba* Linn. Large Yellow Underwing Common resident; larva feeds on a wide range of plants and grasses.
- 2109 N. comes Hb. Lesser Yellow Underwing
  Common resident; larva feeds on Blackthorn, Hawthorn, Sallow and
  many other plants.
- 2110 *N. fimbriata* Schreb. Broad Bordered Yellow Underwing Widely distributed and fairly common on the Warren; larva feeds on Blackthorn, Sallow, Dock and many other shrubs and low plants.
- 2111 *N. janthe* D. & S. Lesser Broad Bordered Yellow Underwing Common resident; larva feeds on Dock, Sallow, Blackthorn and many other plants and shrubs.
- 2112 *N. interjecta* Hb. Least Yellow Underwing Widespread but local; several seen on the Warren; larva feeds on various grasses and low plants.

- *Graphipgora augur* Fabr. Double Dart Widely distributed and seldom common; few seen on the Warren; larva feeds on Blackthorn, Hawthorn and Sallow.
- *Lycophotia porphyrea* D. & S. True-Lovers Knot Fairly common resident; larva feeds on heathers.
- *Peridroma saucia* Hb. Pearly Underwing
  A migrant species that may breed here during the warmer months;
  larva feeds on wild and cultivated herbaceous plants.
- *Diarsia mendica* ssp. *mendica* Fabr. Ingrailed Clay Fairly common resident; larva feeds on Bramble, Bilberry, Sallow, Dock and many other plants.
- *D. rubi* View. Small Square Spot Common resident; larva feeds on a wide variety of herbaceous foodplants.
- *Xestia c-nigrum* Linn. Setaceous Hebrew Character Common resident and migrant; larva feeds on Common Nettle and probably many other plants.
- *X. triangulum* Hufn. Double Square Spot Fairly common resident although few seen on the Warren; larva feeds on Blackthorn, Hawthorn, Bramble, Sallow and other trees and plants.
- *X. xanthographa* D. & S. Square-spot Rustic Common resident; larva feeds on grasses and low plants.
- 2138 Anaplectoides prasina D. & S. Green Arches
  Usually an insect of deciduous woodland and widely distributed and locally common over much of the British Isles; larva feeds on a variety of plants including Bilberry and Honeysuckle. Recorded on 28.6.1995.
- *Discestra trifolii* Hufn. The Nutmeg Fairly common resident; larva feeds on Goosefoot and Orache.
- *Hada nana* Hufn. The Shears
  Fairly common resident; larva feeds on Hawk's-beard, Hawkweed,
  Dandelion and Chickweed.
- *Polia nebulosa* Hufn. Grey Arches Generally distributed but not many to light on the Warren; larva feeds on Birch, Sallow, Bramble, Honeysuckle, Hawthorn and Dock.
- *Sideridis albicolon* Hb. White Colon Fairly common resident; larva feeds on Goosefoot spp.
- *Mamestra brassicae* Linn. Cabbage Moth Common resident; larva feeds on Brassica spp.
- *Melanchra persicariae* Linn. Dot Moth Common resident; larva feeds on many wild and cultivated plants.

- 2157 Lacanobia w-latinum Hufn. Light Brocade
  Widely distributed but local; only two or three seen on the Warren;
  larva feeds on a wide variety of plants and shrubs including Broom
  and Dyers Greenwood.
- 2158 L. thalassina Hufn. Pale-shouldered Brocade
  Generally distributed and common woodland species throughout the
  British Isles. recorded by Mr & Mrs Normand in July 1993; larva
  feeds on a wide variety of plants including Dyers Greenwood and
  Broom.
- 2159 L. suasa D. & S. Dog's Tooth
  Widespread and locally common in southern England; noted in the
  Devonshire Association records by T. Dobson and H.A. Kennard
  feeding on flowers of Silene 7.6.1963; larva feeds on herbaceous
  plants.
- 2160 *L. oleracea* Linn. Bright-line Brown-eye Common resident; larva feeds on wide variety of plants and shrubs; can sometimes be a pest on tomatoes.
- 2163 Ceramica pisi Linn. Broom Moth Generally distributed and not uncommon throughout the British Isles. Recorded by David C.G. Brown in July 1989; larva feeds on a wide variety of plants and shrubs.
- 2164 *Hecatera bicolorata* Hufn. Broad-barred White Widely distributed with only two seen on the Warren; larva feeds mainly on the flowers of Hawkweed and Hawk's-beard.
- 2166 *Hadena rivularis* Fab. The Campion
  Widely distributed and locally common; few seen on the Warren; larva feeds on the seeds of *Silene* and *Lychnis*.
- 2171 *H. confusa* Hufn. Marbled Coronet Widely distributed mainly on calcareous soils; only one or two seen on the Warren; larva feeds on the seeds of *Silene*.
- 2173 *H. bicruris* Hufn. The Lychnis Widely distributed and often common; few seen on the Warren; larva feeds on the seeds of *Silene* and *Lychnis*.
- 2176 Cerapteryx graminis Linn. Antler Moth
  Common resident although few seen; larva feeds on Mat-grass,
  Sheeps-fescue and other grasses.
- 2177 Tholera cespitis D. & S. Hedge Rustic Locally common over much of the British Isles. Recorded by David C.G. Brown prior to 1982 and by other recorders in other years; larva feeds on Mat-grass and other grasses.
- 2182 Orthosia cruda D. & S. Small Quaker Common resident although few seen; larva feeds on Sallow, Oak and other trees.

- 2186 O. gracilis D. & S. Powdered Quaker
  Widely distributed throughout the British Isles; larva feeds on a wide
  variety of plants including Sallow, Willow and Bog Myrtle.
- 2187 O. cerasi Fabr. Common Quaker Common resident; larva feeds on Sallow, Oak and other trees.
- 2188 *O. incerta* Hufn. Clouded Drab Common resident; larva feeds on Sallow, Oak and other trees.
- 2190 *O. gothica* Linn. Hebrew Character Common resident; larva feeds on a wide variety of trees and shrubs.
- 2191 *Mythimna turca* Linn. Double Line Locally common in south-west England and known from a number of Devon sites; larva feeds on various grasses. Recorded 4.7.1995.
- 2192 *M. conigera* D. & S. Brown-line Bright-eye Widely distributed and not uncommon throughout the British Isles; larva feeds on various grasses.
- 2193 *M. ferrago* Fabr. The Clay Common resident; larva feeds mainly on grasses but also other plants.
- 2197 *M. straminea* Treit. Southern Wainscot Common resident; larva feeds on Common Reed and Canary Grass.
- 2198 *M. impura* Hb. Smoky Wainscot Common resident; larva feeds on a wide variety of grasses.
- 2199 *M. pallens* Linn. Common Wainscot Common resident; larva feeds on a wide variety of grasses.
- 2201 M. litoralis Curt. Shore Wainscot Locally common resident; larva feeds on Marram Grass.
- 2202 *M. l-album* Linn. L-album Wainscot
  A migrant species that has become established in south Devon and elsewhere; few seen on the Warren; larva feeds on grasses.
- 2205 *M. comma* Hb. Shoulder Striped Wainscot Common resident; larva feeds on Cock's-foot and other grasses.
- 2216 *Cucullia umbratica* Linn. The Shark Common resident; larva feeds on Sonchus spp.
- 2225 Brachylomia viminalis Fabr. Minor Shoulder-knot Widespread and not uncommon; few seen on the Warren; larva feeds on Willow and Sallow.
- 2226 Leucochlaena odites Hb. Beautiful Gothic
  A very local species in south-west England, but not uncommon where
  it occurs and it is found on the south coast of Devon. Recorded by Mr
  A. Kolaj in September 1993, two specimens found roosting under the
  railway bridge; larva feeds on grasses.

- 2232 *Aporophyla nigra* Haw. Black Rustic Common resident; larva feeds on grasses and low plants.
- 2243 Xylocampa areola Esp. Early Grey Widely distributed and moderately common in England, Wales and Ireland; larva feeds on wild and garden Honeysuckle.
- 2245 Allophyes oxyacanthae Linn. Green-brindled Crescent Generally distributed but only one seen on the Warren; larva feeds on Hawthorn and Blackthorn.
- 2248 *Dryobotodes eremita* Fabr. Brindled Green Generally distributed and only one or two seen on the Warren; larva feeds on Oak and Hawthorn.
- 2255 Eumichtis lichenea Hb. Feathered Ranunculus
  A mainly coastal species which can be common. It occurs in
  Teignmouth and was recorded by Mr David C. G. Brown in October
  1983: larva feeds on a wide variety of wild and cultivated plants.
- 2258 *Conistra vaccinii* Linn. The Chestnut

  Common resident but only a few seen on the Warren; larva feeds on a variety of trees and plants.
- 2262 Agrochola circellaris The Brick
  Widespread and generally common; only two or three seen on the
  Warren; larva feeds on Wych-elm and sometimes Ash and Poplar.
- 2263 A. lota Cl. Red-line Quaker Common resident; larva feeds on Sallow and Willow.
- 2264 A. macilenta Hb. Yellow-line Quaker
  Resident, only one seen; larva feeds on Beech, Poplar catkins,
  Hawthorn and Oak: Later instars on low-growing plants.
- 2267 A. lychnidis D. & S. Beaded Chestnut

  Common resident; larva feeds on grasses and various low plants.
- 2270 *Omphaloscelis lunosa* Haw. Lunar Underwing Common resident; larva feeds on various grasses.
- 2274 *Xanthia icteritia* Hufn. The Sallow Common resident; larva feeds on Sallow.
- 2278 Acronicta megacephala D. & S. Poplar Grey
  Generally distributed and moderately common over much of England
  and Wales. Recorded by Mr & Mrs Normand in August 1986; larva
  feeds, mainly, on Black Poplar and Aspen.
- 2280 A. leporina Linn. The Miller Common resident; larva feeds on Birch, Sallow, Oak and other trees.
- 2281 A. alni Linn. Alder Moth

  Thinly distributed over the southern half of England and Wales, usually quite local; larva feeds on Birch and Alder. Recorded in 1982 and again 28.6.1995.

- 2283 A. tridens D. & S. Dark Dagger
  - Widespread and not uncommon in England and Wales. Confirmed by examination of the genitalia; larva feeds on a wide variety of trees and shrubs.
- 2284 A. psi Linn. Grey Dagger Common resident; confirmed by examination of genitalia; larva feeds on a variety of trees and shrubs.
- 2289 *A. rumicis* Linn. Knot-grass

  Common resident; larva feeds on variety of plants including Bramble,
  Dock, Sorrel and many others.
- 2291 Craniophora ligustri D. & S. The Coronet
  A local species, seldom found commonly, but widely distributed over
  much of mainland Britain. Recorded by Mr & Mrs Normand in July
  1983: larva feeds on Ash and Wild Privet.
- 2295 Cryphia muralis Forst. Marbled Green A local species; larva feeds on Lichens growing on walls, roofs and rocks.
- 2299 *Amphipyra tragopoginis* Cl. Mouse Moth Common resident; larva feeds on a wide variety of plants and shrubs.
- 2302 Rusina ferruginea Esp. Brown Rustic Common resident; larva feeds on Dock, Plantain and Groundsel.
- 2303 Thalpophila matura Hufn. Straw Underwing
  Widely distributed and not uncommon throughout the British Isles.
  Recorded by Mr & Mrs Normand in May 1983 and by David C.G.
  Brown in July 1989 and other recorders in 1982; larva feeds on various grasses.
- 2305 Euplexia lucipara Linn. Small Angle-shades
  Widespread and moderately common; few seen on the Warren; larva
  feeds on Bracken and other ferns plus a variety of low plants.
- 2306 *Phlogophora meticulosa* Linn. Angle-shades

  Common resident and migrant; larva feeds on a wide variety of plants and shrubs.
- 2318 *Cosmia trapezina* Linn. Dun Bar Common resident; larva feeds on a wide variety of trees and will feed on other caterpillars, including those of its own species.
- 2321 *Apamea monoglypha* Hufn. Dark Arches Common resident; larva feeds on stem basses of Cock's-foot and other grasses.
- 2322 A. lithoxylaea D. & S. Light Arches
  Common resident; larva probably feeds on grasses.
- 2326 A. crenata Hufn. Clouded-border Brindle Widespread and generally common throughout the British Isles. Recorded by Mr & Mrs Normand in May 1983 and June 1984; larva feeds on grasses.

*Dyscia fagaria* (Thunb.) was found in two sites. These appear to be the first county records for Monmouthshire (Horton, *Monmouthshire Lepidoptera*, 1994 and pers. comm.).

#### Acknowledgements

The survey of the Silurian was commissioned and financed by CCW, for whom a more detailed report has been prepared. I would like to thank Adrian Fowles, Invertebrate Zoologist of CCW for his support during the organisation of the survey, Lindy Wilkinson (CCW Area Monitoring Officer), Neil (G.A.N.) Horton, Martin Anthoney, Hugh Crombie for the pleasure of their company during parts of the survey, and the private landowners who allowed me access across their land. I thank CCW and *British Wildlife* for permission to publish this note.— P. WARING, 1366 Lincoln Road, Werrington, Peterborough PE4 6LS.

# New and updated microlepidoptera records for Cheshire (VC58), Shropshire (VC40) and Denbighshire (VC50)

A single specimen of *Lozotaeniodes formosanus* (Geyer) was caught in a Rothampsted Insect Survey trap at Prestbury, Cheshire (SJ894769) on the night of the 14.vii.1994. This is thought to be a new record for Cheshire. A further two specimens were taken at m.v. at the same location on 7 and 27 July this year. The foodplant *Pinus sylvestris* is found in this area of Prestbury, with one young tree within ten metres of the traps. The moth is relatively recent in arrival to England and is steadily extending its range, with the most northerly records from South Yorkshire and with records from Glamorgan and Denbighshire in Wales (Pers. comm. A.M. Emmet).

Swept from vegetation in Ballswood sand quarry, Gresford, Denbighshire (SJ344563) on 12.vi.1994 was *Mompha conturbatella* (Hb.), which Maitland Emmet informs me is new to his lists for Denbighshire, and the third record for the Principality – where it is apparently scarce. I have since learnt that Mervyn Newstead recorded *Mompha conturbatella* at Fenns Moss, Denbighshire on 7.vii.1988 (Pers. comm. Bryan Formestone).

The Shropshire microlepidoptera are generally under-recorded, with in many instances both the first and only record occurring over 50 years ago. During 1993 and 1994 a number of these earlier records were confirmed by field work in the south of the County. *Ypsolopha dentella* (Fabr.), *Y. scabrella* (Linn.) and *Y. sequella* (Cl.) were taken at light on 26.vi.1994 at Pennerley (SO355987) — a small hamlet on the edge of moorland at an altitude of 363 metres. The only previous record for *Y. dentella* was by Hignett in 1930, and the Pennerley records represent the third County records for *Y. scabrella* and *Y. sequella*.

From larvae collected on 1.v.1994 from Dames violet *Hesperis matronalis* on the edge of the old Pennerley lead mine (SO354993), one imago of *Plutella porrectella* (Linn.) was reared and emerged on 24.v.1994 –

confirming the previous County record by Hignett from Oswestry in 1929. From the same location *Agonopterix assimilella* (Treit.) – the third Shropshire record – was reared from larvae collected from broom on 7.v.1994 and *Aphelia paleana* (Hb.) recorded on 21.vii.1992 – was the first record outside Whixall Moss. The fourth Shropshire record for *Exapate congelatella* (Cl.) was noted on 29.x.1993 at light at Pennerley (SO355987).

On a very warm and sunny day (31.v.1994) *Lita sexpunctella* (Fabr.) was found to be very common flying over *Calluna vulgaris* at Nipstone Rock (SO357971). The previous record was from Whixall Moss by Hignett in 1931.— DR DAVID POYNTON, la Castlegate, Prestbury, Cheshire SK10 4AZ.

# Acraea violae Fab. (Lep.: Acraeidae) a new species for Thailand

The butterflies of Thailand are fairly well documented, and neither A. Pinratana, *The Butterflies of Thailand* (1979) nor B. D'Abrera, *Butterflies of the Oriental Region* (1984) which catalogues the material in the British Museum (Natural History) Collection, include this species, the latter giving its distribution as India and Ceylon.

I caught two specimens in the hotel grounds about three miles south of Mai Hong Son in northern Thailand on 2 and 6 April 1994, and another ten miles north of the town on 4 April. However, these are not the first specimens to be taken in Thailand, for several recent additions the British Museum Collection include some from around Chieng Mai, eighty miles to the south-east taken by M. Cotton, 28.vi.1984(2) and 29.iv.1986.

Presumably this recent extension of range will have been via Burma, while the Laos border is not far away from these Thailand localities, and that country may soon, if not already, be colonised. The larvae feed gregariously on *Cucurbitaceae*, which includes melons, gourds and cucumbers. L. Woodhouse *The Butterfly Fauna of Ceylon* (1950) notes that on that island *A. violae* is a minor pest on such cultivated plants; the insect may not be a welcome addition the fauna of Thailand.— B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

# Telmatophilus brevicollis Aubé and T. schoenherri (Gyll.) (Col.: Cryptophagidae) in West Kent

There appears to be no published record of either of the above beetles for West Kent, though they are known from the eastern vice-county. In the early 1950s I met with them both in the Higham Marshes below Gravesend, on various occasions in June and July, by sweeping dykeside vegetation -T. brevicollis, the rarer species in general, being the more frequent of the two. The locality produced all our species of the genus except T. sparganii (Ahr.), the rarest. Both the above species used to be taken at Sheerness, just inside the East Kent border, by J.J. Walker and G.C. Champion.

- A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

#### SOME NOTABLE BEETLES (COLEOPTERA) IN CUMBRIA

#### D. B. ATTY

Beckhouse Mill, Embleton, Cockermouth, Cumbria CA13 9TN.

CUMBRIA COMPRISES two Watsonian vice-counties: VC70, the old county of Cumberland, and VC69, Westmorland and North Lancashire. The Coleoptera of Cumberland itself were listed by F.H. Day, of Carlisle, in several papers and many shorter notes published in various periodicals between 1897 and 1957. Many species, particularly Staphylinids and Ptiliids, were contributed by Day's chief collaborator, H. Britten, of Great Salkeld, in 1902-1910. By 1957 the total for Cumberland thus stood at 1859, preponderantly from the east of the county. Since then, another hundred species have been added, by W.F. Davidson of Penrith, R.W.J. Read of Whitehaven (especially weevils and chrysomelids), D.T. Bilton of Carlisle (especially water-beetles), and others, mostly visitors.

Beetles in Westmorland (and N. Lancs.) have been much less formally listed, and reported in widely scattered notes. My friend, Dr Keith Alexander, has in recent years added considerably to these records, and I am glad to incorporate some of his unpublished data, indicated thus: (K.N.A.). At least fifty species are still known from VC69 only and not VC70.

Since moving from Gloucestershire to this north-western corner of the Lake District six years ago, I have seen some 1060 species in the county; about 150 are notable, *sensu lato*, and some 40 were new county records. (An indication of the multifarious habitats of Cumbria rather than a hyperactive retirement; but complacency would be unjustified, for many reputedly common species have not been encountered yet, even in this comparatively unspoiled area.) Some of the more interesting are listed below. However, I have excluded some nationally scarce species which have been quite often recorded in Cumbria, and, conversely, included others which are seldom seen up here at least. All are from VC70, Cumberland, unless marked otherwise by (69) after the locality. A few records from earlier holidays in the area are also incorporated.

An asterisk (\*) before the name denotes a first record for VC70. All records are of single specimens unless stated otherwise. The locality "Beckhouse" means the cottage garden with its surrounding gill-woodland, on the 500 foot contour, at grid reference NY165289; "near Beckhouse" species are from woodland higher up the beck, around NY166287. All heights are in feet above sea level.

#### Carabidae

Carabus nitens L. Carrying a piece of worm in heather at 2200'. Sail (NY201206), 5.vi.1981.

Calosoma inquisitor (L.) Under oaks, Johnny's Wood (NY2514), 4.vi.70.

- Notiophilus aestuans (Mots.) Five in bilberry and heather, 1000-2500', Whiteside to Hobcarton Pike, (NY1621 1822), 21.vii.90; in slate scree, 1800', Meal Fell (NY283337), 13.viii.90; in cairn at 2170', Carrock Fell (NY343336), 26.ix.90.
- N. quadripunctatus Dej. At 2000', Pillar Cove (NY1712), 27.vi.91.
- Blethisa multipunctata (L.) Two in reeds by lake, Cottage Wood (NY322207), 6.vii.89; 12 on bare shore, Thirlmere (NY322133), 18.viii.94.
- *Miscodera arctica* (Payk.) Two at 1900', Stone Arthur (69, NY348092), 29.v.70; one at 2000', High Spy (NY2316), 14.v.72.
- Asaphidion curtum (Heyden.) Two on sandy river-bank, Carlisle (NY395567), 16.vi.93.
- A. flavipes (L.) Two in Eden tidal refuse, Demesne Marsh (NY340618), 26.viii.93; one in Wampool refuse, Whitrigg (NY228577), 19.vii.94.
- Bembidion bipunctatum (L.) Two under pebbles by Derwent Water, The Isthmus (NY261227), 2.vi.81; in flood refuse, Strandshag Bay (NY267222), 11.xi.91.
- \*B. clarki Daws. In reed-marsh, Loweswater (NY119219), 1.viii.90, 8.iv.91.
- B. iricolor Bed. In marram, Allonby (NY080434), 7.vii.89. Previously 1976 only.
- B. lunatum (Duft.) Seven, Whitrigg, 16.vii.90 and 19.vii.94; Demesne Marsh, 26.viii.93.
- B. monticola Sturm. Beckhouse and elsewhere in NY12, NY13 and NY22.
- B. normannum Dej. Two on sandy river-bank, Whitrigg, 16.vii.90.
- B. pallidipenne (Ill.) Six on damp sand, Sandscale Haws (69, SD1974), 21.v.92.
- \*B. quadrimaculatum (L.) One in old wall at 1300', Widow Hause (NY182269), 15.v.89. Surprisingly, no previous records for VC70 or 69.
- B. saxatile Gyll. On sandy shore, Great Bay (NY259189), 17.vii.91.
- Pterostichus aethiops (Panz.) On fells in NY11, 12, 13, 21, 22, 32, usually at 1800 to 2800', but lower in woods in winter, at 925' or 400'.
- *P. oblongopunctatus* (F.) Beckhouse, 16.vii.91; in birch log, Johnny's Wood, 9.x.91. Previously once in VC70, in 1957, but six times in VC69.
- Agonum ericeti (Panz.) On sphagnum hummock, Glasson Moss (NY240603), 8.vii.90.
- \*A. thoreyi Dej. In sallow carr, Keswick (NY260228), 17.ix.80,(K.N.A.).
- Amara lucida (Duft.) In marram, Grune Point (NY143569), 26.ix.89.
- A. consularis (Duft.) By grazed area, Drigg dunes (SD049982), 26.ix.93.

\*Acupalpus dubius Schil. Three, Little Bampton Moss (NY275567), 26.x.89.

#### Dytiscidae

- *Hydroporus ferrugineus* Steph. Three in beckhead puddle at 1600', Knott Rigg (NY202193), 22.iv.91.
- H. longulus Muls. In trickling flush, Wythop Moss (NY175278), 19.iv.90 and 11.viii.91.
- H. obsoletus Aubé. In beckhead pool at 1750', Rosthwaite Cam (NY257120), 24.viii.92.
- Stictonectes lepidus (OI.) Three in rockpool by Smithymire Island (NY273130), 9.ix.90.
- Agabus biguttatus (Ol.) Four in rockpool by Smithymire Island, 9.ix.90.
- A. unguicularis Th. Two in sphagnum swamp, Wythop Moss (NY176275), 18.vii.93.
- *Ilybius aenescens* Th. In peat pool at 2050', Standing Crag (NY297132), 22.viii.94.
- Acilius canaliculatus (Nic.) In peat pool, Glasson Moss (NY234600), 16.vii.90.

#### Gyrinidae

Gyrinus minutus F. 50+ on shallow pool at 775', above High Nook Tarn (NY124198), 4.x.89.

# Hydrophilidae

Cercyon lugubris (Ol.) Two in horse-dung, near Beckhouse, 24.vii.92.

- \*C. marinus Th. Under fungus on damp log near R. Eden, Stanwix (NY397568), 30.vii.93.
- Enochrus ochropterus (Marsh.) In peat pool at 2050', Standing Crag, 22.viii.94.
- Chaetarthria seminulum (Herbst.) Two in pool, Wythop brickpits (NY206281), 1.ix.94.

#### Leiodidae

- Leiodes ferruginea (F.) (= L. ovalis (Schm.)) On grass under oaks, Johnny's Wood, 10a.m. 18.viii.92.
- L. rufipennis (Payk.) Male by fungi on stump, edge of Johnny's Wood (NY249148), 9.x.91; male at plantain roots on sandy river-bank, Whitrigg, 19.vii.94.
- Agathidium marginatum Stm. Two at plantroots, Eskmeals Dunes (SD0895), 12.viii.95.

#### Silphidae

Necrodes litoralis (L.) In shot rook, Isel Hall (NY158338), 9.vii.91.

Silpha tristis III. Two in dunes, Sandscale Haws, 21.v.92.

#### Staphylinidae

\*Megarthrus affinis Mill. In grassheap, Beckhouse, 30.vii.92.

Acidota cruentata Mann. In heather at 2250', Great Calva (NY291312), 15 iv 91.

*Phyllodrepoidea crenata* (Gr.) In mossy log, near Beckhouse, 24.ix.91; in oak log, Johnny's Wood, 25.ix.91; in spruce log, Dodd Wood (NY235280), 11.x.93.

Geodromicus longipes (Mann.) Three under stones at 3000', Skiddaw (NY261292), 6.viii.92.

Anthophagus alpinus (Payk.) Two in moss at 2440', High Crag (NY180141), 3.vi.81.

\*Dropephylla grandiloqua (Luze) In spruce log, Cogra Moss (NY101192), 8.i.90; also later at five other localities in NY21, 22 and 32.

Syntomium aeneum (Müll.) Two under stones at 2700', Skiddaw Little Man (NY268278), 3.vii.90; in moss at 3000', Skiddaw, 6.vii.90; on fir faggot, Darling How Plantation (NY1826), 27.viii.90.

Stenus argus Gr. In marshes in NY03, 22 and 23.

\*S. fuscicornis Er. Under Spiraea bush, Beckhouse, 8.viii.89.

\*S. geniculatus Gr. Under stone at 3000', Skiddaw, 6.viii.92. Apparently a montane species in Britain.

S. nigritulus Gyll. In marshes in three localities in NY22 and 23.

\*S. pallipes Gr. In tussock by Aiken Beck (NY190263), 27.iii.91; by sweeping, Long Moss (NY518367), 26.vi.93.

Paederus fuscipes Curt. On rushes in saltings, Drigg (SD0796), 2.ix.93.

Philonthus rubripennis Steph. In pebbles by R. Eden, Carlisle, 16.vi.93.

\*Gabrius splendidulus (Gr.) In mossy logs, near Beckhouse, 24.ix.91; in oak log, Johnny's Wood, 25.ix.91.

Platydracus fulvipes (Scop.) In bracken, 600', Langstrath (NY271120), 8.vi.73.

P. pubsecens (Deg.) In Hypnum moss, Keskadale Oaks (NY207195), 18.ix.93.

\*Staphylinus ater Gr. Two under seaweed, Workington (NX994292), 17.vi.92; three on sandy cliffs, Saltom Bay (NX9616), 9.vii.93.

Quedius auricomus Kies. Beckhouse and elsewhere in NY12, 21 and 32.

Q. simplicifrons Fair. (= Q. hispanicus Bern.) Two, Grune, 26.ix.89; Drigg Point (SD071965), 2.ix.93.

- \*Q. maurus (Sahlb.) Under bark of rotten fallen oak, Hogg Park, Wythop Woods (NY208283), 13.i.92; off oak, High Wood (NY157203), 22.vi.95.
- Q. nigrocoeruleus Fauv. Dead in sand of beach by dunes, Drigg, 2.ix.93.
- \*Q. plagiatus Mann. Two in birch log, Manesty Park (NY252193), 3.vii.91; five in sappy fallen oak branch, Keskadale Oaks, 18.ix.93; also in NY11, 22 and 31; many localities in VC69, (K.N.A.).
- Q. xanthopus Er. In rotten birch logs at Great Bay, 10.ii.92, and Manesty Park, 12.ii.92; Ashness Woods, 1991, (K.N.A.).
- \*Mycetoporus erichsonanus Fagel. In dry moss at 2710', Gategill Fell Top (NY318273), 16.ix.92.
- \*M. nigricollis Steph. In flight, Beckhouse, 31.iii.90 and 12.vi.90; swept in Lanthwaite Wood (NY153210), 21.vi.93.
- M. rufescens (Steph.) In Hypnum moss at 1250', Keskadale Oaks, 16.ix.93.
- Tachyporus formosus Matth. In Eden tidal refuse, Demesne Marsh, 26.viii.93.
- \*Cypha hanseni (Palm) Seven? off ivy bush on churchyard wall, Embleton (NY162294), 30.viii.93.
- Oligota apicata Er. In fresh Birch Bracket, near Beckhouse, 13.ix.89.
- \*Myllaena gracilis (Matth.) In streamside moss, Force Crag (NY192215), 27.vii.92, (K.N.A.).
- \*M. minuta (Gr.) In sphagnum, Sale Fell (NY198299), 24.x.91.
- \*Leptusa norvegica Strand. In fungi on logs: Higham (NY185316), 9.x.92 and Chapel Wood (NY198293), 14.ii.95.
- Myrmecopora sulcata (Kies.) Four in seaweed, Siddick (NY001315), 14.ix.90.
- \*M. uvida Er. In seaweed, Siddick, 14.viii.95.
- \*Tachyusa umbratica Er. In Eden tidal refuse, Demesne Marsh, 26.viii.93.
- Gnypeta caerulea (Sahlb.) In moss on boulder in beck, Beckhouse, 10.iv.93. (The first record of this species from a garden?)
- Callicerus obscurus Gr. Male swept by pond near Beckhouse, 19.v.92.
- \*Phloeopora corticalis (Gr.) Under sappy bark of fallen oak branch. Keskadale Oaks, 18.ix.93.
- Oxypoda exoleta Er. In straw heap, Wythop brickpits, 2.ix.94.
- \*O. procerula Mann. In sphagnum at 1200', on Narrow Moor (NY241175), 10.ix.92 and at Walla Crag (NY277214), 25.iv.95; in sphagnum, Wythop Moss, 11.iv.94; in ditch, Bewsgill Wood (NY164343), 22.ix.94.
- O. soror Th. Two in heather at 2000', Carl Side (NY254275), 12.ix.89.

#### Pselaphidae

Bibloporus bicolor (Den.) Female under papery bark of fallen birch trunk, Scales, Buttermere (NY1616), 31.iii.93.

#### Geotrupidae

Geotrupes vernalis (L.) Johnny's Wood, 3.x.71; twice in 1990, in NY21 and 22.

#### Scarabaeidae

\*Aphodius equestris (Panz.) Three in cow-dung, Hogg Park, 12.x.91.

#### Elmidae

Oulimnius troglodytes (Gyll.) Two on stony lake-shore, Cottage Wood, 11.vii.89.

#### Byrrhidae

Byrrhus arietinus Steff. On Hobcarton Crag, Fairfield, Helvellyn, Skiddaw and other fells in NY11, 12, 22, 23 and 31.

#### Cantharidae

Ancistronycha abdominalis (F.) Birk Hagg Wood (69, NY365070), 26.vi.84.

Cantharis obscura L. Ten localities in NY12, 21, 22, 23 and 30.

C. thoracica (Ol.) Three off rushes, Cottage Wood, 6.vii.89, only.

Malthodes guttifer Kies. Female on oak, near Beckhouse, 24.vii.92.

M. mysticus Kies. Eight records in woods in SD57, NY12, 13 and 22.

#### Derodontidae

\*Laricobius erichsoni Rosenh. Off bird cherry, near Beckhouse, 5.vi.95.

# Phloiophilidae

*Phloiophilus edwardsi* Steph. In tussock in swampy woodland, The Ings, Derwent Water (NY269221), 25.ii.92.

# Trogossitidae

*Thymalus limbatus* (F.) Only recorded from VC69. Teneral inside Birchbracket, Devil's Chimney (NY394177), 14.vi.92. Previously at Brunt How on 6.ix.89, Nab Scar on 12.ix.89, Glencoyne Wood on 9.vii.91, Fox How on 29.vii.91, (K.N.A.).

#### Nitidulidae

\*Carpophilus marginellus Mots. At rush roots by peat streamlet in Candleseaves Bog (NY277305), 6.viii.92. An extraordinary find. The species was first recorded outdoors in Britain c. 1947, and has since

occurred near haystacks and other man-made habitats, mostly in south and south-west England, up to Cheshire in 1967. (I found one on a rotten pear in my compost-bin in Cheltenham on 6.x.84.) This bog lies at 1500 feet in the wastes of Skiddaw Forest, where the only habitation is one and a half miles distant.

\*Meligethes persicus Fald. (= pedicularius auctt. nec Gyllenhall, 1808) Two off betony, Long Moss, 26.vi.93.

Epuraea rufomarginata (Steph.) Swept at woodedge, Wythop brickpits, 31.viii.94.

### Rhizophagidae

- \*Rhizophagus perforatus Er. Under bark on fallen oak bough, Low High Snab (NY225187), 3.viii.92, (K.N.A).
- \*Cyanostolus aeneus (Rich.) Ten under bark on fallen dead alders by river, Rose Castle (NY372455), 27.vii.91, (K.N.A.).

# Cryptophagidae

Atomaria atra (Herbst.) In marsh, High Hows Wood (NY253160), 18.viii.92.

#### Coccinellidae

Scymnus nigrinus Kug. seven on young spruces, Lanthwaite Wood, 20.viii.91.

- S. redtenbacheri (Muls.) Seven in tussock, Wythop Moss (NY176275), 29.xii.90.
- Hyperaspis pseudopustulata Muls. Swept off reeds, 23.v.89, and in glade, 19.vi.90. in Holme Wood (NY1221); Keskadale Oaks, 30.vii.92, (K.N.A.).
- Propylea quattuordecimpunctata L. Three in woodland at 800', Smardale Gill (69, NY7207), 29.vii.95. Surprisingly scarce in the North: in Cumberland only c. 1830 and in Westmorland first in 1964.
- Halyzia sedecimguttata (L.) Around Beckhouse: on rowan flowers, 28.v.90; on young oak, 19.v.92; flying in garden, 19.vi.92; swept under alders and hazels, 13.viii.93. Two under oaks and on birch, Lanthwaite Wood, 22.vi.95. Also twice by Derwent Water (NY2521) in 1991, (K.N.A.).

#### Ciidae

- \*Sulcacis affinis (Gyll.) In Pleurotus, near Beckhouse, 3.iv.91.
- \*Cis bilamellatus Wood. In Birch-brackets: one female, Hogg Park, 26.viii.90; three males, four females, near Beckhouse, 10.x.91; one male, two females, Side Wood, Ennerdale (NY120139), 25.iii.95. These are the most northerly records in England, *teste* Dr K. Southern.
- C. festivus (Panz.) Two in Polystictus on birch log, Beckhouse, 20.vii.89.
- \*C. pygmaeus (Marsh.) On pine stump fungi, Holme Wood, 8.iv.91.
- \*Ennearthron cornutum (Gyll.) Male in Birch-bracket, Scales, 25.iii.93.

#### Mycetophagidae

Mycetophagus atomarius (F.) Three in rotten stump, Cottage Wood, 6.vi.90.

## Salpingidae

Salpingus castaneus (Panz.) Swept under pines, Buckholme (NY202329), 16.ix.89.

#### Melandryidae

- *Orchesia minor* Walk. Under loose bark of dead standing beech, Setmurthy Plantation (NY159318), 24.xii.91.
- O. undulata Kr. In fallen oak bough, Hogg Park, 23.viii.93; on holly flowers, near Beckhouse, 5.vi.95.
- Abdera flexuosa (Payk.) On may, Friar's Crag (NY264223), 30.v.81; emerged on 9.v.94 from larva in *Inonotus radiatus* on fallen birch, 29.iii.94, in Great Wood (NY280218). Holm Crag Wood, Borrowdale, 1991, (K.N.A.).
- *Melandrya caraboides* (L.) Females flying round log stack, Beckhouse, on 7.vi.92, 5.vi.93, 9.vi.93, 24.vi.94 and 14.vi.95.

### Chrysomelidae

- *Donacia impressa* Payk. In ditch, The Isthmus, 13.ix.95. Previously only in 1905, and in Westmorland in 1960.
- \*D. thalassina Germ. In swamp, Crummock Water (NY151207), 22.vi.95.
- \*Chrysolina banksi (F.) Swept, Peel Wood (NY167315), 7.vi.89; Scarness Bay (NY218301), 11.x.93.
- C. fastuosa (Scop.) On hemp-nettle in NY12, 22 and 23.
- C. menthastri (Suf.) Two swept in marsh, The Ings, 3.vi.80. Previously c. 1840 only.
- C. varians (Schal.) Two on Hypericum, Cottage Wood, 26.viii.91.
- Chrysomela aenea L. 56 on and under alders, High Hows Wood, 18.viii.92; also, often in numbers, in NY11, 12, 13 and 22.
- Pyrrhalta viburni (Payk.) Two on holed leaves of guelder rose, Buckholme (NY195332), 5.ix.91.
- Phyllobrotica quadrimaculata (L.) 28 in marsh, The Isthmus, 25.vi.92; singly at Bowness Bay, 20.vii.92, and High Hows Wood, 18.viii.92.
- Luperus flavipes (L.) Off young birch, Dodd Wood (NY236275), 2.vii.91.
- Phyllotreta flexuosa (Ill.) High Hows Wood, 18.viii.92; near Beckhouse, 23.ix.94.
- \*Aphthona melancholica Weise. Swept at wood edges; Holme Wood, 19.vi.90, and Bowness, 27.vi.92.
- \*A. atrocaerulea Steph. In woodland, Banks Point (NY2031), 20.vii.95.

Longitarsus ochroleucus (Marsh.) Inside window, Beckhouse, 15.ix.89.

Altica pusilla Duft. Six on rockrose, Latterbarrow (69, SD4382), 4.vii.93.

Cassida prasina III. 25 on sneezeworts, Cottage Wood, 26.viii.91; also 26.ix.94.

\*C. vittata Vill. Two off sea-plantain, near Flimby (NY0133), 16.viii.95. Previously in VC69, only at Sandscale Haws in 1983.

#### Attelabidae

Rhynchites cupreus (L.) Swept, High Hows Wood, 3.vi.80.

R. longiceps Th. On sallow, Drumburgh Moss (NY2558), 2.vii.89.

### **Apionidae**

Perapion affine (Kirby) At grassroots in dunes, Mawbray Bank (NY0847), 4 vii 89.

Apion cruentatum Walt. Off sorrel, near Beckhouse, 5.vi.93.

\*Eutrichapion modestum (Germ.) On Lotus uliginosus, Drumburgh Moss, 2.vii.89.

Kalcapion pallipes (Kirby) Two on dog's mercury, Buckholme, 21.viii.89.

Pseudotrichapion punctigerum (Payk.) Beckhouse and five other sites in NY12, 13 and 33.

#### Curculionidae

Otiorrhynchus porcatus (Herbst.) Off heather bush, near London Pride, Beckhouse, 24.vi.93.

Polydrusus chrysomela (Ol.) Three in saltmarsh, Eskmeals (SD0894), 13.vi.92.

P. flavipes (Deg.) Swept in lane, Stair (NY237210), 1.vi.80.

P. pilosus Gred. On young spruce, Setmurthy Common (NY165317), 13.v.89.

Cneorrhinus plumbeus (Marsh.) In dunes, Eskmeals, 13.vi.92.

*Tropiphorus obtusus* (Bons.) Swept under alders in marsh, Cottage Wood, 28.vi.94.

Sitona lineelus (Bons.) In kidney-vetch roots, Maryport Dock (NY029363), 13.vi.91; in Lotus, Saltom Bay, 12.vii.93.

\*Hypera adspersa (F.) Swept in heather etc., Beck Wythop (NY208282), 2.ix.94.

Anoplus roboris Suf. On holed leaves at base of alder, Cottage Wood, 26.viii.91.

*Procas granulicollis* Walt. Under firm bark of spruce stump, Wythop Woods (NY211284), 13.i.92.

- *Notaris aethiops* (F.) Swept off *Lythrum*, Cottage Wood, 17.viii.93. Only two previous records, in Borrowdale (NY21), in 1907 and 1937.
- Coeliodes ruber (Marsh.) Swept in hedgerow, near Beckhouse, 26. ix.92.
- \*Ceuthorhynchus constrictus (Marsh.) Off garlic mustard, Beckhouse, 19.v.92.
- C. punctiger Gyll. Swept near Beckhouse, 12.vi.90 and 24.vii.92; in dunes, Sandscale Haws, 21.v.92.
- C. viduatus (Gyll.) Several off holed marsh woundwort, Cottage Wood, 26.viii.91, and The Isthmus, 25.vi.92 and 16.viii.93.
- *Phytobius comari* (Herbst.) Five records for Cottage Wood, The Isthmus, Dubbs Moss.
- Orobitis cyaneus (L.) Swept in ride, Setmurthy Common, 13.vii.93.
- Curculio villosus F. Female swept by waterfall, Beckhouse, 27.v.88.

#### Scolytidae

- \*Hylastes cunicularius (Er.) Dead under bark of spruce logs, Great Wood (NY273215), 6.iv.92.
- Dryocoetes autographus (Ratz.) Two in spruce stump and log, Darling How Plantation, 27.iii.90.
- *Xyloterus lineatus* (Ol.) Two dead in firm bark of (larch?) log, Low Hows Wood (NY252165), 25.ix.91.
- \*X. signatus (F.) One exploring large fallen oak log, Hawse End, Derwent Water (NY249212), 13.x.85.

A few other first records for VC70 were not unexpected additions of recently recognised species and new arrivals, each taken in the Beckhouse area (and elsewhere). These include: the staphylinids *Lithocharis nigriceps* Kr.; *Autalia longicornis* Scheerp. (also in NY13 and 22); the cryptophagid *Atomaria lewisi* Reitt.; and the lathridiid *Aridius bifasciatus* (Reitt.) (also in NY13, 22 and 23).

Also a few supposedly common species surprisingly omitted from older lists: the carabid *Leistus ferrugineus* (L.) (Beckhouse, 5.vi.89); the dermestids *Anthrenus fuscus* Ol. (Drumburgh Moss and Cottage Wood); and *A. verbasci* (L.) (Beckhouse).

Finally, several rarer or Red Data Book species were observed in 1991–93, but at their established SSSIs on the coast, at Drigg, Eskmeals Dunes and Sandscale Haws. Such are: the carabids *Cicindela hybrida* L., *Harpalus neglectus* Serv., and the histerids *Hypocaccus rugiceps* (Duft.) and *Baeckmanniolus maritimus* (Steph.).

# **Phellinus pini** (Thore ex Fr.) – a new host fungus for *Abdera flexuosa* (Paykull) (Col.: Melandryidae)

On a visit to a remnant of Mar Forest near the Linn of Dee, South Aberdeenshire on 1.vi.95, I came across a fruiting body of *Phellinus pini* on the fallen trunk of Scots pine (*Pinus sylvestris* L.). I broke off a small portion and, seeing that it contained a small white beetle pupa, collected a larger portion of the fungus in the hope of rearing adults for identification. This was soon achieved for, by the time I had returned to Epsom two weeks later, a number of examples of *Abdera flexuosa* had emerged.

As first recorded by Fowler (1891, *The Coleoptera of the British Islands*. vol. 5), the usual host for *A. flexuosa* in Britain is *Inonotus radiatus* (Sow. ex Fr.) Karst (= *Trametes radiatus*) growing on alder or, more rarely, birch. On the continent, it is reported similarly from *I. radiatus* growing on various deciduous trees including alder, beech, poplar, willow and plum and from *Phellinus ignarius* (L. ex Fr.) Quel. also on deciduous trees (Horion, 1956, *Faunistik der Mitteleuropäischen Käfer*. Band 5; Koch, 1989, *Die Käfer Mitteleuropas. Ökologie* Band 2). I have been unable, however, to find any mention of the beetle using as host *P. pini* or any other fungus growing on a coniferous tree. According to Reid and Austwick (1963, *Glasgow Naturalist* 18:255-336), *P. pini* is "not uncommon on conifers in the Scottish Highlands but rare in other parts of the British Isles.— J.A. Owen, 8 Kingsdown Road, Epsom, Surrey KT17 3PU.

# A new locality for *Photedes captiuncula* (Treitschke) (Lep.: Noctuidae) in Yorkshire

On 14 July 1995, whilst conducting a preliminary biological survey for the National Trust at a newly-acquired property in the Yorkshire Dales, two adults of *Photedes captiuncula* were swept from a north facing, limestone grassland bank adjacent to the Cowside Beck (grid ref: SD9069), Mid-west Yorkshire (VC64). A further two examples were seen shortly afterwards flying over the grassland in dull but warm weather, where a recorded foodplant (Carex flacca Schreber) was frequent within the sward. This site lies within an extensive area of high quality limestone grassland extending along the Cowside Beck to Arncliffe and beyond towards Grassington, where Sutton and Beaumont (1989, Butterflies and moths of Yorkshire. Yorkshire Naturalist's Union, Doncaster) report this species from Grass Wood - a well-known site eight kilometres or so to the south-east of the Cowside locality. In view of the extent of suitable limestone grassland, and the expanse of limestone pavement habitats present on the higher ground to the south of the Cowside site, further colonies of this moth may be predicted to occur elsewhere in the vicinity.

I thank Messrs H. Beaumont, P. Corkhill and P. Winter for checking previous Yorkshire records on my behalf.— A.P. Foster, The National Trust, 33 Sheep Street, Cirencester, Gloucestershire GL7 1QW.

#### Diphthongs and delusions, or sense into nonsense

I chanced lately upon a curious and instructive case of what might be termed "unconscious obscurantism" in insect nomenclature, which may interest certain readers. Briefly, Lefkovitch (1959 Trans. R. ent. Soc. Lond. 111, Part 5: 101.), in discussing the name Laemophloeus Dej. (Col.: Cucujidae), points out that though first published and so spelt by Dejean (1837), Laporte spelt it Loemophloeus (1840). Now Dejean's spelling – the valid one – actually makes nonsense by derivation, translating as "throat bark". The Greek laimos appears also in Oxylaemus (literally "sharp throat"), Laemotmetus ("cut throat"), etc., where the reference is no doubt to points of structure; phloios "bark" is a common element in beetle names. So what can Dejean have meant by his ostensibly absurd creation?

The clue to his real intention can be found in Laporte's variant cited above, though it could be questioned whether that was indeed intentional or a mere error of transcription. It does however suggest that what Dejean had in mind was really another Greek word, *loimos*, "a plague or pestilence". This, giving *Loemo*- in composition, makes far better sense: "bark plague" would have meant something to the early entomologists for whom a subcortical insect might be looked on as an actual or potential pest of the tree.

The true villain of the piece, therefore, is the apparently universal belief in those days that the classical dipthongs *ai*, *oi* (Greek), *ae*, *oe* (Latin) are simply alternative spellings and freely interchangeable. In fact they are nothing of the kind; on the contrary, they are distinct phonetic entities, with the vowel-sounds of our "tie" "toy", respectively. In philologist's terms, they are separate *phonemes*, as illustrated by the *laimos/loimos* example above. The rot set in when, in post-classical times, Latin scribes trying to promote their enthusiasm for all things Greek, introduced corrupt spellings of their own to give an appearance of Greek origin; and wholesale confusion was born, lasting (alas) well into the period of zoological nomenclature.— A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

# Argynnis paphia L. (Lep.: Nymphalidae) reappears in N.W. Kent

Although a fairly common butterfly in the woodlands of this area until the 1960s, it has very rarely been noted since, so I was surprised to see a very worn male feeding at *Buddleia* in my garden on 3 August 1995. Chalmers-Hunt (*Butterflies and Moths of Kent*, 1: 1979) states that for Kent the insect is "apparently now very scarce" and Plant (*The Butterflies of the London Area*, 1979) describes it as scarce throughout the region, with the only sightings for the Kent portion being south of Orpington, some seven to eight miles to the south-west.

- B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

### A note on Medon dilutus (Er.) (Col.: Staphylinidae) in Britain

Very little indeed is known of this species in our country, where it appears to be excessively rare. In Hyman and Parsons (1994, *A review of the scarce and threatened Coleoptera of Great Britain*, part 2) it is omitted from the body of the work for reasons that are not very clear, though included in Dr Hyman's original list (*op.cit.* p.19). As only three specimens are known to have occurred, it may have been regarded as of doubtful British status; however, the records indicate a genuine native, albeit one of our rarest insects. The available details, being poorly known, are assembled here.

Scotland: banks of Cairn, Solway district (D. Sharp, no data given; Fowler, 1888, *Col.Brit.Isl.* 2: 315). England: Tubney Wood, near Oxford, 20.xi.1899 (C.E. Collins; Joy, 19.4, *Ent.mon.Mag.* 40: 14); and New Forest (J.J. Walker). This last capture may not have been previously published, or not with full data; these are provided by a MS note of H. Donisthorpe's that I have, according to which the beetle was taken "running on the bark at the foot of a *Cossus*-infected oak in Frame Wood near Brockenhurst, 15.vii.1907". Since that year *M. dilutus* has not, apparently, been seen here, but may possibly be found again.

Although Joy (see above) must have examined and determined the Collins specimen, he nevertheless omitted the species from his *Practical Handbook* (1932). I possess a specimen purchased many years ago at Janson's as an example of *M. castaneus* (Grav.); but later identified for me on the Continent as *M. dilutus*, and agreeing with the descriptions of that species. Most unfortunately it lacks data, but was believed to be British.

- A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

# Oxyna flavipennis (Loew, 1844) (Diptera: Tephritidae) new to Essex

On 5.vii.1995 whilst carrying out an insect survey on the Roman wall at Colchester (TL9925), I took a male tephritid on an inflorescence of Yarrow *Achillea millefolium*.

On consulting White, 1988 (*Tephritid flies*. London, Royal Ent. Soc.) I identified it as *Oxyna flavipennis* (Loew), a nationally notable species hitherto unrecorded from Essex. The specimen was sent to Laurence Clemons, organiser of the Tephritid Recording Scheme, who kindly confirmed my determination.

The larvae of *flavipennis* develop in galls on the roots of *A. millefolium* and, according to Falk, 1991 (*A review of the scarce and threatened flies of Great Britain* (Part 1). Peterborough, NCC) the species may require plants growing in particularly warm and sheltered conditions. Such conditions certainly prevail at the present site, where a steep, well drained, south facing bank abuts the stonework of the Roman wall.

I would like to thank Laurence Clemons for confirming the identity of *O*. *flavipennis* and for information on its current distribution in Great Britain.

– JERRY BOWDREY, Colchester Museums, 14 Ryegate Road, Colchester CO1 1YG.

# The recurrence of *Polistichus connexus* (Fourc.) (Col.: Carabidae) at light in the London suburbs, with a few thoughts on the question of origin

It is of interest to record that two further examples of this scarce beetle (see Allen, 1991, *Ent. Rec.* **103**: 6) turned up here this year, 1995, again at mercury-vapour light (11.viii and 15.viii, both warm nights). One of them has the elytra almost uniformly testaceous, but shows no sign of immaturity; the other is normal. (I should interpose here that for 1990 the total was six specimens, not four – singletons occurring on 23.viii and 26.viii, after I had sent in my note.)

Though the origin of these beetles remains debatable, it is becoming increasingly likely, almost to the point of certainty, that they are not members of our native stock of *P. connexus* but immigrants – a suggestion I owe in the first place to Mr P.F. Whitehead, and which may well apply equally to other most unlikely beetle visitors to the lamp (*Bledius* spp. for instance). The only difficulty I have with this idea is the complete absence of obviously immigrant moths along with the beetles, of which one would surely expect a few. However, reinforcing the immigration theory is the significant fact that *Polistichus* occurred also in Sir John Dacie's light trap at Wimbledon, S.W. London, in the same two years as the Charlton specimens; there the unlikelihood of a breeding centre in the vicinity is still greater than it is here. And after all, if some moths frequently reach inland Britain from the Continent, as they undoubtedly do, why not certain beetles likewise? – A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

#### **Editorial Note**

Polistichus connexus is an enigmatic creature to say the least. I used to regularly take it under stones on the foreshore and undercliff at Newhaven in Sussex and once under a discarded tractor tyre on the north Kent saltmarshes at Twinney. As well as Wimbledon light traps, a single specimen was found in a pitfall trap on the Common on 14.viii.90 (Henderson, 1991, Br.J.Ent.Nat.Hist. 4: 8). Shortly before Mr Allen's recent Charlton specimens were trapped, Mr M. Simmons had two specimens to a light trap at Norman's Bay, Pevensey, East Sussex on the warm night of 1.viii.95, together with a large number of migratory moths and other unusual beetles (1996, Br.J.Ent.Nat.Hist. 9: in press).— RICHARD A. JONES.

#### A note on two clavicorn beetles in Kent

Triplax aenea (Schal.) (Erotylidae): among some beetle remnants submitted to me by Mr K.C. Lewis of Welling, West Kent, from debris of starlings' nests in his attic (a 20-year accumulation) was a fore-body of this species – luckily with a small piece of bright blue elytron still attached, making identification certain. T. aenea (apart from being long-known from the New Forest) has until recently been mainly a species of the midlands and north,

not found in the London and south-eastern districts; but within the last 15 years or more has spread into some of those areas, notably Berkshire (as at Windsor, freely) and Surrey. However, the above would seem to be its first occurrence in Kent, as far as records go.

Rhizophagus dispar (Payk.) (Rhizophagidae): I took a single example of this under bark of one of a number of larch poles dumped at the side of a path in Joydens Wood, Bexley, West Kent (14.vi.1995). Being a not uncommon species, it is rather strange that there appears to be no published record for the county, and that R. dispar has not been previously noticed in its northwest portion. As regards East Kent, Mr N.F. Heal tells me he finds it regularly in several localities (extending to mid-Kent) but only from 1989 – a fact suggesting a newcomer to the county. The case is not unlike that of Triplax aenea (see above). Fowler (1889, Col. Brit. Isl. 3: 266) wrote of Rhizophagus dispar: "it does not . . . apparently occur in the London district or the South". I took it in Hertfordshire in 1935, but it was not on the original Windsor Forest list (Donisthorpe, 1939) though found there in later years.— A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

# Unusual partial second broods of moths taken on the Isle of Wight in 1995

The year 1995 will be rememberd for having the warmest and driest summer in the island since 1989. This was followed by the wettest September and the warmest and sunniest October since records began.

Surprisingly there were fewer late partial second and third broods of moths compared to 1989 and 1994. However, three species are worthy of mention and these partial second brood examples are not mentioned in any entomological literature.

- 1. Oligia strigilis (Linn.) 1 September, Shanklin (Lt. Cdr. J.M. Cheverton).
- 2. Apeira syringaria (Linn.) 1 October, Binstead (B.J. Warne).
- 3. Mimas tiliae (Linn.) 12 October, Freshwater (S.A. Knill-Jones).

All the above moths were taken at mercury vapour light.— S.A. KNILL-JONES. Roundstone, 2 School Green Road, Freshwater, Isle of Wight.

# Melanitis leda L. (Lep.: Satyridae) crepuscular flight in Thailand

Frequenting shady habitats from southern Africa, across south-east Asia to Australia and Japan, this is a familiar butterfly often disturbed from the leaf litter on the ground by day to fly somewhat floppily to settle again a short distance away. However, reference to its natural crepuscular flight is very rarely mentioned, apart from its attraction to light.

In Pennington's Butterflies of Southern Africa (1978) is the statement "but after sunset or on warm overcast days it flops about even in open glades"

while Swanepoel Butterflies of South Africa (1953) quotes Trimen as "having observed these butterflies chasing each other at dusk in Mauritius".

In April 1994 I was staying at the Rim Nam Klang Doi Resort, a delightful thatched Thai hotel beside the Pai river, near Mai Hong Son, its grounds an "oasis" amidst the then bare teak forests of the region. On a number of evenings at dusk whilst crossing a small, damp grassy clearing I saw some wonderful displays of aerobatics by large black butterflies. Two, three or four individuals would engage in violent, erratic territorial (and/or courtship?) manoeuvres, starting from ground level, on an oblique flight path upwards to twenty feet or more, often to return to repeat the process. All the while individuals remained very close to one another, and it was not surprising that the four specimens I caught were distinctly tattered; all four were males. Soon after dark these performances appeared to have ceased.

- B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

# Cochylis pallidana Zell. (Lep.: Tortricidae) new to Hampshire and the Isle of Wight

Among the 263 moths that flew to my m.v. light at home here on 7 August 1995 was a specimen of Cochylis pallidana Zell., a species that is described by Bradley, Tremewan and Smith (1973, British Tortricoid Moths. Ray Society, London) as mainly coastal but also occurring inland on the chalk downs of southern England, where it is scarce and local. I am grateful to Barry Goater for confirming both my identification of the specimen and its status as new to Hampshire and the Isle of Wight. I understand from Col. Emmet (pers. comm.) that this year pallidana has also occurred elsewhere later than the expected season in June. - ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

# Margaritia sticticalis Linn. (Lep.: Pyralidae) in East Suffolk

Shortly after 3pm on 1 August 1995, I noticed and managed to photograph a specimen of Margaritia sticticalis Linn. settled in bright sunlight on lavender at Quay Street, Orford (TM424497). This sighting was considerably further east than most of my previous observations: Wicken Fen (9 August 1953), Elvedon (11 August 1950) and Thelnetham Fen (5 August 1959). As the Orford lavender was not more than two hundred yards inland, the moth may have migrated, particularly since in 1995 there have also been widespread reports from most of England. At all events, it was good to renew acquaintance with this species, which I had last seen on 6 August 1964 near Beccles. - ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

#### TWO SHORT HOLIDAYS IN FRANCE

#### H.I. ELSTON

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### 12th to 22nd June 1993 - The Riviera and Alpes Maritimes.

In early June 1993 my wife and I flew to Nice to start a ten day holiday near Grasse, where we were lucky to have the opportunity to investigate the butterflies of this delightful area of France. A small rented Peugeot provided convenient yet basic transport. We left the Riviera and climbed the mountains leaving the humidity and congestion of the coast behind us, and with the roads mostly to ourselves we were welcomed by blue skies and glorious sunshine.

We were to spend most of our time on the southern slopes of Mount Cheiron, a large massif lying east to west approximately forty minutes drive north of Nice. This mountain is some 1800 metres high and in winter serves the nearby coastal area with a small skiing resort at the villages of Greolieres les Neiges. Between Mont Cheiron and the Mediterranean runs the River Loup which further down its course forms a gorge providing some fairly dramatic scenery, though not as spectacular as the Gorges du Verdon northwest of Grasse.

In the Gorges du Loup just above the village of Bar sur Loup our first day provided a true taste of continental butterflies with Melitaea didyma Esp., Colias australis Vrty. and Plebicula amanda Schn. flying in small clearings beside the river. Higher up the valley some abandoned terraces were alive with insects and in particular P. amanda, Lysandra bellargus Rott. and Maculinea arion L. Just emerging were some fine fresh males of Brenthis daphne Schiff., and also many Mellicta athalia Rott. with males of this species appearing at nearly every locality that we visited over the next week. All along the roadside following the gorge we encountered Mesoacidalia aglaja L. and Fabriciana adippe Schiff. visiting kerbside flowers. Limenitis reducta Stdgr. was also very common with some fine specimens on the wing although many of the males were past their best. This beautiful butterfly has all the grace and elegance of our own Limenitis camilla L., and fresh specimens are indeed a delight to see. Higher up on the slopes of Mont Cheiron we found more terraces with the normal selection of blues including P. amanda, M. arion and L. bellargus. A fortunate sighting was a male Melanargia occitanica Esp., one of only two specimens of this species seen in the whole ten days, whereas Melanargia galathea L. was one of the commonest species encountered with many specimens approaching form procida. At these higher levels Aporia crataegi L. swarmed with some specimens appearing very fresh whilst others were distinctly ragged. Swallowtails were represented by good numbers of Iphiclides podalirius L., a single male Papilio alexanor Esp. that paid a fleeting visit to a roadside

quarry, and one distant sighting of *Papilio machaon* L. with this latter species obviously between broods. Sadly we did not have time to search for its larvae.

Having spent the first five days exploring the Loup valley, we then turned our attention to the high ground above the hilltop village of Gourdon. After lunch in a charming roadside cafe and in continuing glorious weather we stumbled on a dry watercourse where a colony of *Brenthis hecate* Schiff. were flitting over the rocky ground. The aroma of herbs filled the air and we revelled at the superb views back down the valley towards Gourdon. *B. hecate* was in perfect condition but only males were encountered. The watercourse also produced *Clossiana dia* L. and *Mellicta parthenoides* Kef. as well as a few specimens of the delightful *Lycaena helle* Schiff. Very rocky ground and a steep-sided gully made it difficult to move quickly, however my wife noticed a small fluttering, yellow butterfly which proved to be *Anthocaris belia euphenoides* Stdgr. but this was sadly worn because of the late date.

Passing over the Col du Plan towards the village of Caussols the ground levelled out and we found ourselves on a wide plateau with open meadows ablaze with flowers on either side of the road. Further on we came upon a dry river bed alive with butterflies notably *Fabriciana niobe* L., *Issoria lathonia* L. and lovely bright males of *Plebicula escheri* Huel. A particularly iridescent blue originally dismissed as *L. bellargus* proved to be *Plebicula dorylas* Schiff., and a more patient search revealed small colonies of *Cyanaris semiargus* Rott. and *Cupido osiris* Meigen.

On our last whole day we set out towards the Montagne de Thorenc where in a small layby we found a very active colony of *Heodes alciphron* Rott., and on our return journey west of Grasse near the village of St Vallier de Thiey another layby produced swarms of the hairstreaks *Strymonidia spini* Schiff. and *Nordmannia ilicis* Esp. There were literally dozens of these two species settled on low bushes beside the road with the slightest disturbance from a passing vehicle causing a flurry of agitated butterflies! We left our charming rented farmhouse near Grasse on the 22nd June with *Brintesia circe* Fab. gliding around the fruit trees in the orchard, and so ended ten lovely days in which we had seen many species of butterfly and explored some beautiful countryside.

# 5th to 14th July 1994 - The Riviera and Provence.

This year a return visit to France was eagerly awaited! Once again we flew to Nice, and an overnight stay with friends near Bar sur Loup gave me a brief opportunity to revisit a few of the better localities from last year. The Gorges du Loup was disappointing with little sign of last year's lush greenery although I soon remembered that we were now well into July. I did

however, find one perfect male *Meleageria daphnis* Schiff. before hurrying back to the plateau near Caussols where I retraced my steps to the particular gully that had been so productive in 1993. I was not to be disappointed. A few small pools of water remained in the dry river bed, and the wet mud surrounding these was carpeted with swarms of butterflies. It was an amazing sight to see so many congregated in such a small area, and indeed one that I associated more with tropical rain forests than Europe. *A. escheri* was particularly common as well as good numbers of *Lysandra coridon* Poda., *Agrodiatus damon* Schiff. and *P. dorylas*. The masses of insects made identification very difficult and I am sure that amongst them were other species that I failed to recognise.

The next day we left Bar sur Loup and joined the autoroute for the two and a half hour drive west towards Cavaillon and the Luberon. Here we were staying for a week in a delightful Provencal farmhouse near Gourdes with views south to the Luberon hills. The day after our arrival we drove to the hilltop village of Bonnieux and then south into the Combe de Lourmarin. The twisting road followed a dried up river bed and eventually we found a clearing under some trees where we parked and explored a path running parallel to the road. A variety of flowers attracted Argynnis paphia L., F. adippe and I. lathonia, a fresh hatch of Colias croceus Geoff. and C. australis and swarms of Nordmannia esculi Hueb. Soaring between the trees were P. machaon and I. podalirius together with L. reducta, and M. galathea and B. circe jostled for position on the taller flowerheads. The next day the same locality produced Gonepteryx cleopatra L, and I took some time to note the many burnets which included Zygaena erythrus ., Z. ephialtes ephialtes ., Z. ephialtes peucedanoides ., and Z. occitanica . At another spot of rough ground near the village of Buoux there were again many burnets with additional species Z. sarpedon., and Z. lonicerae.

Returning to our house that afternoon I took a small side road just south of Bonnieux and came to an open cultivated field bordered by a small wood. Along the edge of the wood ran a strip of ground thick with wild flowers and grasses. Here were an excellent assortment of butterflies and burnets. Beautiful, fresh specimens of *I. lathonia* flitted over the flowers being chased by *A. paphia* and fine large examples of *A. adippe*. Many *L. reducta* ghosted through the trees and males of *C. australis* with their lemon yellow wings edged in purplish-red careered over the cultivated field. Swarms of blues, burnets and hairstreaks completed the scene. I took time to appreciate the atmosphere, further enhanced by finding a colony of *Agrodiatus dolus* Hueb. resting amongst the grass stems.

A few days later we ventured north-east from Gordes to the Gordes de la Nesque which cuts through the Vaucluse plateau. After a long and twisting drive we entered the gorge at the eastern end via the village of Monieux hoping to catch sight of *Parnassius apollo* L. soaring about the precipitous

cliffs. Within minutes we saw our first specimens flapping along the roadside and I have to admit to an almost childish excitement at seeing one of Europe's showier, but nevertheless more impressive butterflies, for the first time. *P. apollo* was fairly common though condition varied from perfect to very ragged. Further down the gorge we encountered *M. daphnis*, *M. didyma* and numbers of the heath *Coenonympha dorus* Esp. We also saw *B. circe*, *M. galathea*, *C. australis* and the occasional *G. cleopatra*, but by midday the heat was oppressive and the number of insects on the wing diminished considerably. Certainly the flight of *P. apollo* was over by noon and during our half hour return drive back up the gorge we failed to see a single specimen of this species.

A couple of days later I decided to make a return journey to the Gorges de la Nesque but after an early morning visit I continued via Sault towards Mont Ventoux. From all over the Luberon and the Vaucluse plateau Mont Ventoux is clearly visible, and the drive to visit it is well worthwhile even if only for the views it provides over the Provence region. The slopes produce a variety of habitats and my couple of hours on the mountain were hopelessly inadequate to achieve much as far as butterflies were concerned. I did however, see quite a few more P. apollo and many of the commoner species already recorded from the Luberon. I was very pleased to find fine colonies of the burnets Zygaena purpuralis . and Z. fausta ., and amongst swarms of M. galathea I found some particularly dark examples which appeared even more extreme than form *procida*. This is a mountain that has been well recorded in this publication and somewhere that I would like to have spent more time. Sadly that was not available. On my return journey to Gordes, near the village of Mur, I stopped briefly only to stumble on a small colony of the forester Adscita chloros.

This was my final expedition of the holiday and the next day we returned to Nice and from there to London. Provence has produced many new species that I had not encountered in the Alpes Maritimes, and if nothing else I had come to appreciate the vast diversity of insect life that exists in France and the fascination it has held for generations of entomologists.

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# Some brief comments on the presence of brown dots in the terminal fascia of *Cyclophora punctaria* (Linn., 1758) (Lep.: Geometridae)

A female *Cyclophora punctaria* was found resting on the wall of a building near the river Miñho in the north-western Spanish city of Orense on 17 August 1995. On being enclosed in a standard pill-box, the specimen laid a total of four ova that evening before expiring.

Although I was confident about the identity of the moth, on consulting Skinner (1984, Colour identification guide to the moths of the British Isles. Viking, Middlesex) on my return to the UK, the two specimens illustrated did not match with my own, as the latter example had extra scaling in the outer margin of the forewing, towards the apex, of a greyish-brown, contrasting with the reddishness of the spots on the tornus. The latterly described scaling does appear on the Skinner example. In addition, there was an area of pinkish scaling in the middle of the forewings, this coloration being especially pronounced in the moths which emerged in mid-October (one male and one female emerged, pairing on two occasions, from which resulted several ova).

Skou (1986, *The geometrid moths of north Europe* Vol. 6, Scandinavian Science Press, Denmark) is illustrated with five examples of this species, one of which concurs with mine. Moreover, Skou states the greater likelihood of extra dotting in moths of the second generation, of which my imago was a case in point. However, on 8 August 1995 at a m.v. light in operation at Burnham Beeches, Buckinghamshire, I did not find any similar morphs of this geometrid.— Gareth King, 22 Stoney Meade, Slough, Berkshire SL1 2YL.

# Cryptophagus fallax B.-Browne (Col.: Cryptophagidae): a correction

Regarding this distinctive and (in Britain) very rare *Cryptophagus*, Hyman and Parsons (1994 A review of the scarce and threatened Coleoptera of Great Britain, 2: 41. Joint Nature Conservation Committee, Peterborough) state that the species is known from only three vice-counties, which they give as West Kent, Hertfordshire and Herefordshire based on Johnson, (1988 Ent. Gaz. 39: 329-335 (332). This may be puzzling to some, since Fowler (1889 The Coleoptera of the British Islands, 3: 323. L. Reeve & Co., London), who correctly recognised the species (then known as fumatus Marsh.), listed several well-scattered records. However, Woodroffe (1953 Ent. mon. Mag. 89: 236) wrote ". . . there can be no doubt that it [C. fumatus] is an extremely rare species in this country, many of the records being based on erroneous determinations", and for that reason it is best to ignore such of the early records as have not been confirmed.

The omission of Hampshire by Hyman and Parsons is hard to explain, since it is mentioned by Johnson (*loc. cit.*). The late G.E. Woodroffe found the beetle very sparingly in a house at Upton Grey (Woodroffe, 1956 *Ent. mon. Mag.* 92: 138-141) and subsequently in the Police College at Bramshill

– both localities in North Hampshire. The situation in each case was a batroost, where *C. fallax* was collected with other arthropods from the accumulated dung, suggesting a specific association. Mr Woodroffe was so good as to send me a specimen from the Bramshill site, dated 5.x.56. I have not seen a published record of this latter occurrence. – A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

#### Callicera aenea (Fabr.) (Dip.: Syrphidae) in North Hampshire

Among the 481 moths attracted to m.v. light at Wake's Cottage, Selborne, on 25 August 1995 was a large golden hoverfly, which reminded me of pictures I had seen of the genus *Callicera* (Morely, 1942 *Trans. Suffolk Nat. Soc.* 5: 14). Mr Nigel Wyatt of the Natural History Museum kindly identified the specimen as *Callicera aenea* Fabr., a species that had been at one time annually recorded from the New Forest and had been found, but irregularly and singly, in localities up to Yorkshire (Colyer and Hammond, 1951 *Flies of the British Isles,* Warne, London; Coe, 1953 *Handbooks for the Identification of British Insects: Diptera – Syrphidae,* Royal Entomological Society, London; Stubbs and Falk, 1983 *British hoverflies,* British Entomological and Natural History Society, Reading). Most of the specimens have been observed at flowers and this Selborne occurrence may be the first noted at light. The insect had probably been first drawn to our wild clematis blossom and thence to the light.

Callicera aenea seems to be associated with pine woods and the larvae have been found in water-filled holes in pine stumps. As Selborne supports very few pines, this fly may have arrived from sandier habitats. On the other hand, an association with birch may be a possibility.— ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

# Tetheella fluctuosa (Hb. (Lep.: Thyatiridae) at Selborne, Hampshire

In Goater (1991 *The Moths and Butterflies of Great Britain and Ireland*, 7(2), Harley Books, Colchester), Hampshire is not cited as a main habitat for the Satin Lutestring, *Tetheella fluctuosa*. Indeed, Goater (1992 *The Butterflies and Moths of Hampshire and the Isle of Wight: additions and corrections*, Joint Nature Conservation Committee, Peterborough) lists only the following published reliable occurrences: Farringdon (early 1950s), Whitehill (1953, 1955), Alice Holt (1969), Bordon (1970, 1971, 1973) – all the foregoing in VC12 – and Winchester (1983) in VC11.

It was therefore very interesting to capture and photograph four specimens at my cottage m.v. light in Selborne on 7, 13, 14 and 26 July 1995. As there are extensive stands of birch on Selborne Common and in Priory Wood, and as the specimens were in fresh condition, this species could well be breeding in the vicinity.— Alasdair Aston, Wake's Cottage, Selborne, Hampshire GU34 3JH.

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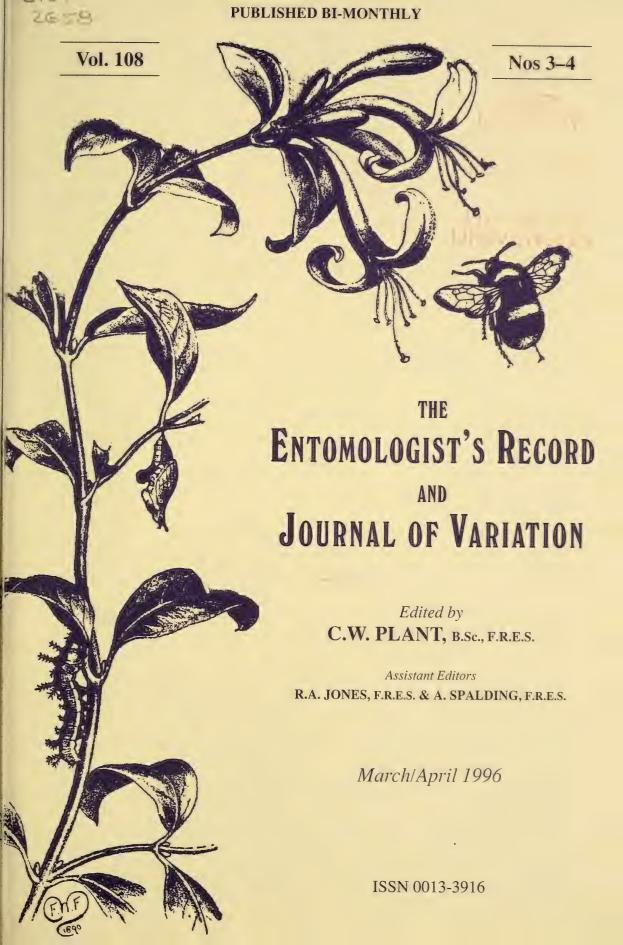
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### RESEARCH ON GRECIAN BUTTERFLIES: A BIBLIOGRAPHY

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THE RICH AND DIVERSE flora of Greece supports an invertebrate fauna which includes more than 200 species of butterflies. The intriguing combination of classical archaeology and wild natural beauty has made Greece a particularly attractive destination for natural scientists from western Europe for well over a century. A marked increase in scientific studies of the Grecian butterflies has occurred relatively recently, measured by the number of published articles on the fauna of the archipelago. Only nine articles were found published between 1960-69, compared with 59 during 1970-79 and 63 in the period 1980-89. From 1990 to only mid-1995, already 35 more have appeared. It is pertinent to give special recognition to the work in recent years, of John G. Coutsis of Athens and Alain Olivier, Willy O. de Prins and D. Van der Poorten of Antwerpen, who, through dedicated field-work, careful analysis and sustained productivity, have contributed a remarkable 30% of the articles in this bibliography. Much of the literature on Grecian butterflies is easily accessible, but about two-thirds occurs in European journals with limited circulation in the English-speaking world. A significant number of important articles are in German and French, and a few in Flemish or Greek. Because of the continuing economic situation, relatively few universities or government libraries in the United Kingdom hold such journals, and fewer still in the other English-speaking countries with major academic communities, such as Australia, New Zealand, Canada, South Africa and the U.S.A. Furthermore, several of these journals are either not listed by some of the major international abstracting services, or only erratically reported. These problems make it difficult to become acquainted with and gain access to some of the literature.

This bibliography makes no claims to be comprehensive. It is based on scans of the listings of *The Zoological Record*, *Entomological Abstracts* and *Biological Abstracts*, and so should contain the majority of recent articles specific to Grecian butterflies. For brevity, I have excluded most major taxonomic treatments where Greece is just a minor part of a much wider range of genera or species. Space also precludes re-listing the primary sources (prior to 1975) of initial descriptions of species which occur in Greece. These can all be found in the bibliography of L.G. Higgins *The Classification of European Butterflies* published by Collins in 1975. Nor have I included the several selective or comprehensive texts and guides on European butterflies which include references to Greece, with the idiosyncratic exception of Higgins and Riley (1983), the field guide which, despite some shortcomings, has accompanied me to some fifty localities in Greece over the last twelve years.

To assist readers I have keyed references by genera; region, locality or island; time of year and a limited number of subjects, essentially based on title content. Many of the articles on Grecian butterflies are regional surveys and I have not keyed the many routine references to genera in these sources because of space limitations. Genera are keyed only when the title indicates that they are a focus of the publication.

### **Key Words**

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Araschnia 86.

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### Microlepidoptera of Middlesex

Following on from the success of the recent publication *Larger moths of the London Area* (1993), the London Natural History Society is now working towards publication of a checklist of the microlepidoptera of Middlesex. It is expected that the exercise may take another four years to complete.

The term Middlesex involves the entire of vice-county 21 and thus includes all of the London boroughs north of the River Thames with the exception of the five lying to the east of the River Lea (Newham, Redbridge, Waltham Forest, Barking & Dagenham and Havering), which are in South Essex (VC18). Middlesex also incorporates some areas which lie in the current administrative county of Hertfordshire, notably the Potters Bar area. No part of Middlesex extends south of the River Thames.

Records are sought from appropriate persons for all those families generally regarded as "micros" - thus including the Psychidae which were formerly referred to as the "macros", as well as those which are sometimes referred to as the mesolepidoptera - the Tortricidae, Alucitidae, Pyralidae and Pterophoridae. Records should include the name, the Bradley & Fletcher code number (to avoid nomenclature confusion), the date where possible and the locality. Records will be assumed to relate to imagines unless "mine", "larva" or some other qualifying statement is provided. Localities will ideally include a place name and a four figure grid reference. Place names should be those appearing on the Ordnance Survey maps; precise localities, such as the names of nature areas or ecology parks in London are desirable but if these do not appear on the O.S. maps the nearest locality should always be given. Where a grid reference cannot be obtained, an address obtained from one of the various published books of street maps of London should be used. Site lists will ideally be presented in Log Book order to facilitate data entry. Overnight trap dates should give the first date, according to the example 23 August for 23-24 August, and not as 24 August. Approximate counts and sexes are desirable for immigrants. Confidentiality for selected records may be requested. Records are required for all time, not just the present. I regret that because of other commitments, I am unable to accept specimens for identification.

All communications will be acknowledged and records from outside Middlesex contained in mixed lists will always be forwarded to the appropriate recorders unless directions are given to the contrary. Because of the risk posed by computer viruses I am not prepared to accept records on disk; unsolicited disks will be returned un-examined. Please send records direct to me.— Colin W. Plant, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.

### Metoecus paradoxus (L.) (Col.: Rhipiphoridae): further West Kent records

Recently my friend Michael Chalmers-Hunt kindly passed to me a male of the wasp-nest beetle, found a flower in his garden at West Wickham on 5 August 1995. Fowler (1891, *Coleoptera of the British Isles.* 5: 83) remarks

that it is rarely found on flowers, which certainly seems true, though the sporadic examples met with at large can occur under almost any circumstances. About eight years ago my late friend Dudley Collins, at Carshalton Beeches, Surrey, saw a passing bird drop something on his garden lawn, which proved to be a male *Metoecus* (unsurprisingly rather damaged).

It is becoming steadily more apparent that *M. paradoxus* is spread over all of England and may occur wherever its hosts do. The West Wickham find is but one of the latest of a crop of records from around London; it is curious, therefore, that neither in Fowler (*loc. cit.*) nor in Folwer & Donisthorpe (1913, *op. cit.* 6: 299) is there a record for the London district, except perhaps Coombe Wood (Wimbledon?). I can add another from West Kent: Welling, a male and female from a wasp-nest in an attic, found dead in sealed cells, also a pupa, mid-November (K.C. Lewis). The last is another case of the occurrence of the species in an above-ground nest (*cf.* Allen, 1984, *Ent. Rec.* 96: 184), of which several are now known; the common idea that it breeds only in underground nests is emphatically no longer tenable. – A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8OG.

The Horseflies of Yorkshire by Andrew Grayson. 48 pages. ANDYG Publications. £3.00 (including postage and packing; overseas £4.00 surface, £5.00 airmail). 1995.

This is a comprehensive account of the eleven species of Tabanidae confirmed to occur in the historic county of Yorkshire. Of these only two *Chrysops* and two *Haematopota* are considered to be well-established in the county today. The other species are rather more local and a few of them may now be extinct in the county. Surprisingly, *Tabanus bromius* Linnaeus, among the commoner members of its family elsewhere, could not be confirmed as having occurred in Yorkshire.

The habits and habitats are described in general and by species and the present distribution of suitable habitats in Yorkshire is discussed. A full list of available data including evaluation of earlier records and of the sources of information are included. The distribution maps for each species are supported by a tabular display of distribution by vice-county and major geographical areas within Yorkshire.

The most attractive feature of this account is the whole-insect drawings of both sexes of all eleven species plus a representative of *Atylotus*, the only British genus not recorded in Yorkshire.

Notes on identification and simplified keys to the included species (illustrated by diagnostic features) conclude the work. Typographical errors are few but E.E. Austen's name is misspelt in both text and references.

This work is available from the author (cheques payable to him) at The Ryedale Laundry, Kirkbymoorside, York YO6 6DN.

Peter Chandler

### Identification of Philonthus furcifer Renkonen (Col.: Staphylinidae)

In identifying specimens of P. furcifer taken in various localities in Ireland, I came across two problems which may be of interest to others similarly involved; the first concerned leg colour, the second the form of the aedeagus.

Tottenham (1939, Entomologist's mon. Mag. 75: 201-202), introducing the species to the British List, compared it with P. micans (Gravenhorst) to which it is very close and to which it runs down in the key provided by Joy (1932, A Practical Handbook of British Beetles H.F. & G. Witherby, London). He wrote that the "legs are blackish, except for the knees and tarsi which are brown, whereas in micans the legs are for the most part yellowish". The legs of all my eight specimens, inspected with a hand-lens, are clearly darker than in micans (or in the very similar micantoides Benick & Lohse) but, under the microscope, they appear more or less uniformly deep red-brown, somewhat lighter only at the knees.

It may be that Tottenham's description was unduly influenced by that of Renkonen (1937, *Ann. Ent. Fenn.* 3: 73-78) who, in describing the species, gave the leg colour as blackish ("schwärzlich") with knees and tarsi brown. Lohse (1962, in *Die Käfer Mitteleuropas.* 4. ed. Freude, Harde & Lohse. Goecke & Evers, Krefeld) gives the leg colour as black ("schwarz") with lighter knees and tarsi whilst Coiffait (1974, *Coleoptères staphylinidae de la Région paléarctique occidentale*. Toulouse) describes the tibiae as blackish ("noirâtres"). It may be that there is a real difference in leg colour between Irish specimens and those of other populations possibly because the Irish population has developed in isolation. Unfortunately, a search for the Irish specimens on which Tottenham added the species to the British list among his material in the British Museum (Natural History) was unsuccessful.

Tottenham did not figure the aedeagus though he gives a detailed description of it. Lohse (*op. cit.*), provides a drawing (fig. 71 page 185) which purports, according to the text, to be that of *furcifer* but the drawing does not in any way match Tottenham's description. It was my friend, Mr Allen who gave me the explanation; the correct fig. for *furcifer* is no. 54. This was intimated on an errata slip issued to go with volume 4 of the series (*Die Käfer Mitteleuropas*) but my copy, bought more recently, lacked this. The correction (along with others) appears, albeit obscurely, on page 168 of volume 12.

As far as the British Isles go, *furcifer* appears to be confined to Ireland where it is widely distributed. Tottenham's specimens were taken by Bullock near Killarney. Subsequently the species has been reported from Galway, Limerick, Mayo and Roscommon (Lott & Foster, 1990, *Ir. Nat. J.* 23: 280-282; Lott & Bilston, 1991, *Bull. Ir. biogeog. Soc.* 14: 60-73) and no doubt other localities. My specimens, collected in May 1993, are from Clare, Galway, Roscommon and West Meath.

I thank Mr Peter Hammond for his trouble in searching for Tottenham's specimens among material in the British Museum (Natural History).

- J.A. OWEN, 8 Kingsdown Road, Epsom, Surrey KT17 3PU.

### Collecting notes 1995

On 4 March I flew to Pakistan with my colleague Tahir Chaudry. I took my butterfly net but a busy schedule of visits prevented serious collecting. It was early in the season and I saw few butterflies (mainly *Neptis* Fabr. or *Danaus* Kluk species). The Punjab is either intensively cultivated or man-made desert and I saw only *Pieris brassicae* L. there. N.W. Frontier Province is wilder, hillier and of more potential entomological interest. I am certain that *Papilio machaon* L. flew past the car in the centre of Islamabad but the extreme danger to pedestrians from local drivers prevented confirmation! Excellent food, generous people and the snowy mountains of Kashmir glimpsed from the hill station of Murree combined to ensure that the net will return to this region.

On 13 May I returned for a family holiday to La Folatiere in Charente which I described in a previous *Collecting notes* (*Ent. Rec.* **107**: 199-201). Heavy rain and low night temperatures conspired to produce a poor list of macro-moths. Amongst the 95 species recorded was the spectacular *Saturnia pyri* D. & S. which is the largest moth I have ever trapped. Specimens were too large to pass through the funnel of my Robinson trap but fortunately most gave up the attempt and settled in the surrounding vegetation. These included a number of females from which eggs were obtained. Although the larvae fed avidly on hawthorn and blackthorn, they were not easily reared. Their health improved when moved to a shady spot in a hot sun room. I also obtained eggs from a female of the typical form of the Silver Cloud *Egira conspicillaris* L. These larvae were reared easily on dock in plastic boxes.

Other species noted in the trap included Large Dark Prominent *Notodonta torva* Hb., Lunar Double-stripe *Minucia lunaris* D. & S., and a pretty Tiger moth *Hyphoraia aulica* L.

Fortunately, ornithology was our main objective when my old friend Richard Clinton and I set out for north-west Scotland on 3 June. Cold, wet weather reached a gale-force climax near Cape Wrath on 7 June! Whilst Richard watched a Golden Eagle in Glen Markie (Inverness) I managed to collect short series of Common Heath *Ematurga atomaria* L. and Satyr Pug *Eupithecia satyrata callunaria* Doubl. On the higher slopes I stumbled (literally!) on a single specimen of the Broad-bordered White Underwing *Anarta melanopa* Thunb.

The most interesting entomological observation of the trip concerned a plague of Garden Tiger *Arctia caja* L. larvae on the Scottish Wildlife Trust's Handa Island reserve in Sutherland. The plague was restricted to an area about 350 yards inland from the landing beach. Thousands of large, well-fed larvae wandered over the turf searching for their next meal. In true *caja* style they had eaten more-or-less every broad-leaved plant in the affected area. I even noticed one small group chewing experimentally at moss! We removed 100 larvae picked up at random to assess the mortality rate due to parasites. Past experience of wild *caja* larvae suggested that this would be high.

Reality suggested otherwise as no larvae produced parasites and all produced normal, healthy adult moths! This species would repay further study on Handa Island. Perhaps a local collector or SWT warden could monitor the situation from year to year? Trapping the adults during their flight period would be interesting.

David Keningale and I returned to the forests of Haute Marne on 24 June hoping to find the Purple Emperor Apatura iris L. and its lesser cousin A. ilia Schiff, which we had seen on a flying visit to the area on 19 June 1993. The French season was late and only Poplar Admirals *Ladoga populi* L. graced the woods. My rule in these situations is "when butterflies are scarce – search for limestone!" We did and a local limestone meadow produced a new species for us – the Chestnut Heath Coenonympha glycerion Borkh. A wider search for the limestone woods west of the A31 road produced Woodland Browns Lopinga achine Scop. in abundance. Whilst walking along the edge of a "lopinga wood" David took a sweep of the net high up in a privet bush and a few seconds later asked "What do you make of this Marsh Fritt?" "Must be a local form" I replied, uneasily, as taxonomic alarm bells and memories of the plates in Higgins and Riley combined to make me uncertain. The specimen was, of course, the Scarce Fritillary Euphydryas maturna Linn, which lived up to its name as we encountered less than half a dozen worn specimens. The larvae of this species inhabit nests in ash, poplar and beech until spring when they complete feeding on low-growing plants. The coppiced beech in the "lopinga wood" was probably utilised by them, but I failed to find young larvae.

The two *Apatura* species made their appearance in numbers towards the end of the week. We employed a dead Pine Marten as bait but this proved much less attractive to the butterflies than David's dark blue Volvo estate! What is the attraction? Is it the shiny surface resemblance to water or the smell of the catalytic converter? Other butterflies began to appear such as Silver-washed Fritillary *Argynnis paphia* L., High Brown Fritillary *A. adippe* D. & S. and White Admiral *Ladoga camilla* Linn. I was pleased to see Southern White Admiral *Ladoga reducta* Stdgr. which must be near its northerly French limit in Haute Marne.

A family holiday to Lands End, Cornwall in late August provided my first British encounter with the Convolvulus Hawkmoth *Agrius convolvuli* L. which appeared in the trap on 27 August. The presence of *Nomophila nocutella* D. & S. lead to high hopes of more migrants but cool, clear nights denied them. I consoled myself with Neglected Rustic *Xestia castanea* and a series of very dark Flounced Rustic *Luperina testacea* D. & S.

Trapping in my garden in Somerset improved markedly on the 1994 season. The hot weather of July and August produced huge numbers of species such as Common Rustic *Mesapamea secalis* L. and Common Wainscot *Mythimna pallens* L. The latter gave rise to at least three generations with very small specimens appearing in October. Rarer species,

such as the Double Lobed *Apamea ophiogramma* Esp. were also on the increase. I added 13 macros to the garden list including Reddish Light Arches *A. sublustris* Esp., Marbled Green *Cryphia muralis* Forst. and Dog's Tooth *Lacanobia suasa* D. & S. An increase in Silver Y *Autographa gamma* Linn. and *N. noctuella* late in the season promised more migrants. These appeared as a Convolvulus Hawkmoth *A. convolvuli* on 16.9.1995, a Vestal *Rhodometra sacraria* L. on 9.10.1995, two Small Mottled Willows *Spodoptera exigua* Hb. on 14.9.1995 and 23.10.1995 and a few Pearly Underwings *Peridroma saucia* Hb. Late arrivals in the trap included a fresh male Yellow-tail *Euproctis similis* Fuess. on 13 October and Vines Rustic *Hoplodrina ambigua* D. & S. in mid-November!

At about the middle of the season, I decided to tackle some of the "micros" which appeared in the trap and which I had ignored for the previous quarter of a century or so! I found some interesting species such as the Tortricid *Epiphyas postvittana* Walk. and the Pyralids *Pyla fusca* Haw. and *Euzophera pinguis* Haw. I must end this article on a note of humility by admitting that I spent a considerable amount of time trying to match a small Caddis Fly *Leptocerus albifrons* L. to a specimen in the Museum's collection of microlepidoptera! (It had scales, I tell you!) Perhaps one really is never too old to learn?!— M.D. BRYAN, "Extons", Taunton Road, Bishops Lydeard, Somerset.

### Camberwell Beauties *Nymphalis antiopa* (L.) (Lep. Nymphalidae) and Swallowtails *Papilio machaon* L. (Lep.: Papilionidae) in Shetland

No doubt a full account of the Camberwell Beauty invasion of 1995 will appear in print in due course, but it is worth placing on record details of the two most northerly British representatives of the invasion, in Shetland.

The first was seen at Ham on Foula on 11 August 1995 by islanders Sheila and Jim Gear. I received a detailed description of this individual, which was described as being a very strong flyer and difficult to approach, although Sheila did manage to get a good look at the insect on one occasion when it landed inside a walled garden. The day was very warm and sunny with a light south to south-easterly breeze. Other migrant Lepidoptera at about the same time included several Peacocks *Inachis io* (L.).

A second individual was seen at Maryfield on Bressay on 10 September 1995 by the seasonal wardens from Noss NNR, Paul Goddard and Darren Hemsley. They described seeing a large, black butterfly with a half centimetre white border, flying over their heads. It flew into a garden and they followed it hoping to get a better view, only to find a garden full of hungry, migrant flycatchers! Many migrant birds occurred at the same time as this individual as well as many migrant Lepidoptera, including several other butterflies of four species, Great Brocade *Eurois occulta* (L.). Clifden Nonpareil *Catocala fraxini* (L.) and several Convolvulus Hawkmoths *Agrius convolvuli* (L.).

There are only four previous Shetland records of Camberwell Beauty, although neither of the two 1995 records were the first for their respective islands. There was one on Foula on 31 August 1897 (Clarke, 1897. *Ann. Scot. Nat. Hist.* 1897: 48) and another on 18 July 1976 (Thomson, 1980. *The Butterflies of Scotland.* Croon Helm). The other two records were in Scalloway at the end of the last century (King, 1901. *Ent. Mon. Mag.* 37: 226-227) and in Lerwick on 4 August 1982 (Smith, 1984. *Bull. Amat. Ent. Soc.* 43: 146).

Even more extraordinary are two records of Swallowtail *Papilio machaon*. The first was found dead by Tim Baldwin, a visitor from Kent, at Voe in central Mainland on 2 August 1994. The insect was found on the side of a road, minus its legs and with a large notch missing from one forewing. It was otherwise quite fresh. There was obviously much speculation as to its origins but natural vagrancy seems as likely as any method. This record occurred during a period of Lepidoptera immigration which included several other species new to the Shetland list.

That another Swallowtail should occur so soon afterwards was even more amazing. The second individual was seen briefly in flight by Mark Newell on Fair Isle on 9 September 1995. Mark had been assisting with ornithological and entomological work at the Fair Isle Bird Observatory and was fully aware of the significance of his sighting. A large, powerful, yellow and black insect flew past him while he was out birding, although it unfortunately disappeared behind a building and could not be relocated. Although brief, the sighting was sufficient to confirm the identity. Scarce Swallowtail *Iphiclides podalirius* (Scop.) was excluded by the chequered, rather than striped, patterning. Again, this record occurred during a period of immigration of both migrant Lepidoptera and birds including the second Camberwell Beauty record detailed above.

Although there are other sightings of Swallowtails in Scotland, according to George Thomson (*op. cit.*) these are all escapes from captivity, although perhaps some reappraisal of these records may be appropriate.

My thanks to all the observers of these records for their prompt and accurate reports of their sightings.— MIKE PENNINGTON, Shetland Entomological Group, 9 Daisy Park, Baltasound, Unst, Shetland ZE2 9EA.

### Up in the air

Mr Baldwin's note (1995, Ent. Rec. 107: 296) appears to be a variant of the children's riddle:

Q. What lies on its back, 100 feet up in the air?

A. A centipede.

– M.G. Morris, Orchard House, 7 Clarence Road, Dorchester, Dorset DT1 2HF.

## HARPALUS (PSEUDOPHONUS) GRISEUS PANZER (COL.: CARABIDAE) AT WIMBLEDON, SURREY – THE FIRST DEFINITELY BRITISH RECORD?

### J.A. OWEN

8 Kingsdown Road, Epsom, Surrey KT17 3PU.

MY FRIEND Professor Dacie runs a light trap for lepidoptera in his garden at Wimbledon, Surrey and passes on to me any beetles caught. Among a number trapped during the second half of July 1995 was a carabid which ran down straightforwardly to *Harpalus griseus* in the key provided by Freude & Arnold (1976). I sent the specimen to Dr Martin Luff who replied very promptly that he agreed with my diagnosis.

Superficially, *H. griseus* resembles a small example of *H. rufipes* De Geer. The more important differences are given in Table 1. The Wimbledon specimen is a male with a length of 10.5mm. It has all the typical features of the species given in the table.

Though the name *H. griseus* appeared in early lists of British insects, e.g. that of Stephens (1829), the early supposition that it was British has not been sustained. Initially, Fowler (1886) accepted it as such, no doubt influenced by the announcement (Rye, 1863) that there were two examples, though lacking localities, in the Waterhouse Collection. Fowler also listed Cannock Chase, the New Forest and Ireland as sites from which *H. griseus* had been recorded.

While Rye was responsible for drawing attention to the Waterhouse specimens, he himself appears to have been uncertain about their British origin, later listing the species as doubtfully British (Rye, 1866). Later, Fowler too seems to have had doubts, for *H. griseus* is not in the list of British beetles published by Sharp & Fowler (1893) and, later still, he formally withdrew it on the stated grounds that he knew of no authentic British specimen (Fowler & Donisthorpe, 1913). Johnson (1894) mentions south Louth as an Irish site but this record too was later rejected (Johnson & Halbert, 1901). More recent authors dealing with British beetles (e.g. Beare, 1930; Joy, 1932; Kloet & Hincks, 1945; Pope, 1977) have simply omitted *H. griseus* without comment.

To try and find out why *H. griseus* was first accepted as a British beetle and then rejected, I have attempted to locate and examine the specimens to which Fowler (1886) and Johnson (1884) referred. One of the two Waterhouse specimens was found to be still present in the Waterhouse Collection in the Royal Scottish Museums, Edinburgh. I have been able to examine it and find that it is undoubtedly an example of *H. griseus* with a typically shaped pronotum and with pubescence and punctures on the abdominal segments. The specimen is on card inscribed "G. R. W. Coll." but there is a pin-hole through the right elytron. It could be rejected as a definitely British specimen on the grounds that it lacks provenance but its identity is beyond question.

Fowler's New Forest record presumably relates to the specimen he mentioned earlier (Fowler, 1882) which was stated to be at the time in his hands. It could not, however, be found in a recent search in the Nottingham Museum which holds the Fowler Collection. The Cannock Chase reference given by Fowler presumably refers to a report by Blatch (1879), who mentions a specimen of *Harpalus ruficornis* var *griseus* taken at "Deakins' Grave, 760 feet above sea level" along with *Nebria gyllenhali* (Schoenherr) and *Miscodera arctica* (Paykull). The specimen, however, could not be found among Blatch material either at Manchester Museum or York Museum. Similarly, the specimen(s) mentioned by Johnson (1894) could not be found in the Irish National Collection in Dublin.

Whether the recent occurrence at Wimbledon constitutes the first certain record for the British Isles is thus uncertain. The Waterhouse specimen predates it by over a 100 years but lacks data. It is, however, perhaps significant that it was contempories of Waterhouse (e.g. Rye, Fowler), no doubt familiar with the collecting ethos of the day, who decided that it was not a British specimen. More recently, Lindroth, who examined the British carabid fauna in depth in preparation for his Royal Entomological Society Handbook (Lindroth, 1974), concluded that *H. griseus* was not known at the time from the British Isles though it was a potential addition to the British beetle list (Lindroth, 1971). Search of the literature and enquiries among colleagues and to various museums have failed to bring to light a specimen with unequivocal provenance. The species, however, is close to the very common *H. rufipes* and might easily be passed over for small specimens of the latter. I should certainly be interested to hear from anyone knowing of a definitely British specimen.

Table 1. Comparison of Harpalus griseus and H. rufipes.

	H. griseus	H. rufipes
Length	9 - 11mm	11 - 16mm
hind angles of pronotum	rounded, obtuse	sharp, right-angled or slightly acute
sides of pronotum in basal third	straight, right to the hind angles	usually clearly sinuate in front of hind angles but sometimes only weakly so
medial region of last three abdominal segments	pubescent, each hair arising from an obvious shallow puncture	glabrous except for setae at rear edge of each abdominal segment; a few microscopic punctures
side of elytra at apex	weakly sinuate	clearly sinuate

The source of the Wimbledon specimen is also a matter of conjecture. The species is known to fly and to come to light (Freude & Arnold, 1976). It could have bred locally or it could have reached Wimbledon aided or unaided from a distant British locality or from the continent. It occurs in France and throughout continental Europe (Lucht, 1987) and in Scandinavia (Silfverberg, 1979) and it is known to be migratory (Lindroth, 1971). The period immediately before its capture was one of prolonged high temperatures both in south-east England and on the nearby parts of continental Europe and this could have helped unaided travel from a distance. Two other species – *Bledius germanicus* Wagner (3 exx.) and *Enochrus bicolor* (Fabricius) (2 exx.), which appeared in the trap during July, each species on one night only, must have flown at least 25km for they are both strictly halophilic, salt-marsh species and there are no suitable localities nearer to Wimbledon. Most of the other 30 beetle species trapped in July, however, are known to occur locally.

### Acknowledgements

My thanks are due to Sir John Dacie for letting me have beetles caught in his light trap, to Dr Martin Luff for confirming my identification of *H. griseus*, to Mr A. Whittington, for arranging the loan of material from the Waterhouse Collection, National Museums of Scotland, to Dr R. Anderson for comment on the status of *H. griseus* in Ireland, to Mr A.A. Allen for drawing my attention to the paper by Blatch and to Dr O'Connor, Mr M. Denton, Mr C. Johnson, Dr Sheila Wright and Mr C. Telford, for information respectively on material in the National Collection, Dublin, the Ellis Collection, the York Museum, the Blatch and other collections in the Manchester Museum, the Fowler Collection in Nottingham and in the Liverpool Museum.

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### Ptilophora plumigera D. & S. (Lep.: Notodontidae) the Plumed Prominent in West Kent

On 11 November 1995 Bernard Skinner, Paul Sokoloff, Keith Palmer, Tony Steele and myself ran five light-traps at Shoreham for *Ptilophora plumigera*. A male, the sole specimen seen, was netted on a sheet at about 19.45 hours, some three hours after sunset. The trap concerned was the only one sited in the open and not under *Acer campestre*.

The most recent record that I am aware of for this species in the general vicinity of this site is given in Chalmers-Hunt (*The Butterflies and Moths of Kent*) and dates from 1955. The meagre results compared with the effort suggests that the moth is at low density or flew slightly earlier than usual. There were no large stands of *A. campestre* at the site and this leads me to suppose that the species probably still occurs at suitable places all along the Darenth Valley.

The evening was also notable for the late occurrence of a number of common species. Those recorded included *Carcina quercana* Fabr and the Barred Sallow *Xanthia aurago* D. & S.– IAN D. FERGUSON, 31 Cathcart Drive, Orpington, Kent BR6 8DU.

### Migrant butterflies in south-west England

On Monday 9 October 1995, at 09.30 hours, I noticed a small butterfly resting in the shade on the side of my house. It turned out to be a Long-tailed Blue *Lampides boeticus* L. A few minutes later, as the sunlight reached the spot, the butterfly quivered its wings briefly, then flew off strongly in an easterly direction.

On Saturday 14 October 1995, I sat down for a cup of tea at Looe in Cornwall, when a Monarch *Danaus plexippus* L. flew across the lawn at 12.30 hours, flying onto the beach and disappearing in a south-westerly direction.— A.A. ARCHER LOCK, 4 Glenwood Road, Mannamead, Plymouth, Devon PL3 5NH.

### Agriopis aurantiaria (Hb.) (Lep.: Geometridae): two melanistic forms in the London area

B. Kettlewell (1973, *The Evolution of Melanism*) lists only one of the several male melanic forms, ab. *fumipennaria* Hellweger (= *fusca* Porritt), classifying it as an industrial melanic found in Yorkshire; subsequently it has been found on Mitcham Common, Surrey by Bernard Skinner. Quite different from this dark, almost unmarked form is ab. *fasciaria* Linstow, the forewings of which have in addition to the normal transverse lines a darker band between the postmedial and subterminal lines. In torchlight at night it is readily seen to be darker than normal *aurantiaria*, and I think it can be considered a melanistic form which is found particularly in certain areas which have had high levels of atmospheric pollution. Thus the series in the National Collection at the British Museum (Natural History) is largely composed of specimens from Huddersfield and Delamere, areas well known for melanic forms, and Epping and Wimbledon in the London area. There is also a record from the New Forest.

E. aurantiaria was exceedingly common on certain parts of Dartford Heath between 1960 and about 1985; it is now much scarcer. These parts were wooded, containing thickets of hawthorn, isolated oaks and saplings of sycamore. A half-hour's search at night would reveal several ab. fasciaria among several dozen aurantiaria specimens, at a frequency of about 15%. These Dartford Heath colonies were characterised by being comprised of well marked specimens, and ab. macularia Nordetrom (with a row of submarginal spots), ab. nigrofasciaria Scholz (these spots coalesced into a dark band) and ab. ellipsaria Lempke (postmedian line forming a small ellipse within itself near costa) were common. It is interesting to find that E. Newman (1874, An Illustrated Natural History of British Moths) describes aurantiaria as having "an oblique line of spots between the third line and hind margin" i.e. ab. macularia, but the accompanying figure is clearly the more extreme ab. nigrofasciaria.

Mitcham Common is about fourteen miles west-south-west of Dartford Heath; the habitat for *aurantiaria* is similar in each locality. My knowledge of the Surrey colony is based on three evening visits in 1979, 1985 and 1987, essentially to look for ab. *fumipennaria*, and on the perusal of the series of the moth in Bernard Skinner's collection. On each of my expeditions to Mitcham Common I found a specimen of the extreme melanic form, but none worth collecting, from which I would estimate an incidence of no more than about 2%, although I understand from Bernard Skinner that it is more frequent and that 5% is more realistic a figure for the period in question.

The other forms mentioned above except *fasciaria*, also occur on Mitcham Common, although I was left with the impression that in this locality there was a higher proportion of pale and not well-marked specimens in contrast with the Dartford Heath colony. However, the most significant difference is

the apparent absence of fumipennaria from Dartford Heath, and fasciaria from Mitcham Common. Chalmers-Hunt (1976, The Butterflies and Moths of Kent) mentions none of these forms for the county, although several other forms are listed as being in the National Collection.

I wish to thank Mr D. Carter for granting me permission to study the National collection and relevant literature.— B.K. WEST, 36 Briar Road, Dartford, Kent DA5 2HN.

### A late example of *Noctua pronuba* L. (Lep.: Noctuidae)

Operating the garden trap, ever hopeful of a brief spell of warm weather, on 25 November 1995, the sole occupant in the morning was a plump and pristine example of Noctua pronuba. Whether this was an example of a second brood or an immigrant remains unclear.— PAUL SOKOLOFF, 4 Steep Close, Orpington, Kent BR6 6DS.

### Rare migrants during October 1995

On 8 October, with warm air arriving from north-west Africa, I set off to the Lizard, Cornwall with high hopes of migrants. It was soon evident on this first evening that a migration was in progress with Spodoptera cilium Guen. in one of the moth traps situated at Coverack, together with six Rhodometra sacraria L. The southerly breeze continued uninterrupted for the next ten days and the following migrants were recorded:-

### 9 October:

1	Agrius convolvuli L.	39	R. sacraria
1	Mythimna vitellina Hb.	5	Hellula undalis Fabr.
1	M. Loreyi Dup.	1	Palpita unionalis Hübn.
4	Spodoptera exigua Hb.	1	Vanessa atalanta L.
1	Eublemma parva Hb.		

### 10 October:

1 M. vitellina	19 R. sacraria
1 M. loreyi	1 H. undalis
2 S. exigua	1 P. unionalis

11	October:		
1	Macroglossum stellatarum Linn.	25	R. sacraria
2	Mythimna albipuncta	2	Orthonama obstipata Fabr.
2	M. vitellina	7	Lithosia quadra L.
1	M. loreyi	3	P. unionalis
1	S. exigua	1	H. undalis
2	Heliothis armigera Hb.	2	V. atalanta
1	Fuhlemma ostrina Hh		

2327 A. epomidion Haw. Clouded Brindle Widespread and fairly common over much of England and Wales; larva feeds on various grasses. Recorded 28.6.1995.

2330 A. remissa Hb. Dusky Brocade
Widespread and sometimes locally common throughout the British
Isles: larva feeds on the seeds and leaves of various grasses.

2336 A. ophiogramma Esp. Double Lobed Locally distributed in England, Wales and southern Scotland. Recorded by Mr & Mrs Normand in July 1983; larva feeds in the stems of wild and cultivated Ribbon Grass and occasionally Reed Sweet-grass.

2337 *Oligia strigilis* Linn. Marbled Minor Common resident; confirmed by examination of genitalia; larva feeds internally on Cock's-foot, Reed and Canary grasses.

2338 *O. versicolor* Borkh. Rufous Minor Common resident; confirmed by identification of genitalia; probably feeds on Cock's-foot, Reed and Canary grasses, internally.

2339 O. latruncula D. & S. Tawny Marbled Minor Common resident; confirmed by examination of genitalia; larva feeds internally on various grasses.

2340 *O. fasciuncula* Haw. Middle-barred Minor A frequent to common species found throughout the British Isles; larva feeds on various grasses.

2341 *Mesoligia furuncula* D. & S. Cloaked Minor Common resident; larva feeds internally in various grasses.

2342 *M. literosa* Haw. Rosy Minor Common resident; larva feeds internally in various grasses and cultivated cereals.

2343 Mesapamea secalis Linn. Common Rustic Common resident; larva feeds internally in various grasses and cultivated cereals.

2343a *M. didyma* Esp. Lesser Common Rustic Common resident; larva feeds internally in various grasses and cultivated cereals.

2345 *Photedes minima* Haw. Small Dotted Buff Inhabits woodland clearings, marshy places and damp meadows over the greater part of the British Isles. Recorded by David C.G. Brown in July 1989; larva feeds in the stems of Tufted Hair-grass.

2350 *P. pygmina* Haw. Small Wainscot
Usually fairly common where it occurs but only two or three seen on the
Warren; larva feeds in the stems of various sedges, rushes and grasses.

2352 Eremobia ochroleuca D. & S. Dusky Sallow
Not usually found west of Dorset; one female taken 6.8.1994 which laid eggs which overwinter; larva feeds on the flowers and seeds of Cock's-foot, Couch, Meadow-oat and other grasses.

2353 Luperina testacea D. & s. Flounced Rustic Common resident; larva feeds on the roots and stem bases of various grasses.

2361 *Hydraecia micacea* Esp. Rosy Rustic Common resident; larva feeds in the roots of various low plants.

2364 Gortyna flavago D. & S. Frosted Orange Common resident, larva feeds in the stems of Burdock, Dock and other low-growing plants.

2369 *Nonagria typhae* Thunb. Bulrush Wainscot Widespread and common in suitable habitats, with individuals sometimes found a long way from breeding sites. Noted by Ivor Lakin on 14.5.1995; larva feeds mainly in the stems of *Typha latifolia* ("bulrush").

2370 Archanara geminipuncta Haw. Twin-spot Wainscot Common resident; larva feeds in the stems of Common Reed.

2375 *Rhizedra lutosa* Hubn. Large Wainscot
Common resident although only two seen in 1994, the moth has been recorded in numbers on previous years by other recorders; larva feeds in the root and stem bases of Common Reed.

2377 Arenostola phragmitidis Hb. Fen Wainscot
Recently recorded as new to Devon; larva feeds in the stems of
Common Reed.

2379 *Coenobia rufa* Haw. Small Rufous Common resident; larva feeds in the stems of Juncus ssp.

2380 *Charanyca trigrammica* Hufn. Treble Lines Common resident; larva feeds on a variety of low plants including Greater Plantain, Common Knapweed and Dwarf Thistle.

2381 *Hoplodrina alsines* Brahm. The Uncertain Common resident; larva feeds on a variety of low-growing plants.

2382 *H. blanda* D. & S. The Rustic Common resident; larva feeds on a variety of low-growing plants.

2384 *H. ambifua* D. & S. Vines Rustic Common resident and suspected migrant; larva feeds on a variety of low-growing plants.

2385 Spodoptera exigua Hb. Small Mottled Willow
An uncommon migrant species; two or three seen on the Warren;
larva has been found in *Persicaria* and can be a serious pest in its native country.

2387 Caradine morpheus Hufn. Mottled Rustic Common resident; larva feeds on Nettle, Dandelion and other low plants.

2389 *C. clavipalpis* Scop. Pale Mottled Willow Common resident; larva feeds on growing and harvested ears of wheat and other cereals.

2391 *Chilodes maritimus* Tausch. Silky Wainscot Common resident, larva lives in old reed stems feeding on a variety of animal and vegetable matter.

2399 *Pyrrhia umbra* Hufn. Bordered Straw Common resident; larva feeds on the flowers and seeds of Rest-harrow.

2418 Earias clorana Linn. Cream Bordered Green Pea A thriving colony on the Warren; larva feeds on Osier, Willow and Creeping Willow.

- 2425 Colocasia coryli Linn. Nut Tree Tussock Common resident; larva feeds on beech, Hazel, Birch, Field Maple and Hornbeam.
- 2434 *Diachrysia chrysitis* Linn. Burnished Brass Common resident; larva feeds on Common Nettle and other plants.
- 2439 *Plusia festucae* Linn. Gold Spot
  Widely distributed and locally common; only a few seen on the
  Warren; larva supposedly feeds on Yellow Iris and Sparganium.
- A very common migrant species which breeds during the summer months; larva feeds on Nettle, Pellitory and many other plants; can be a pest of vegetable growers.
- 2443 A. jota Linn. Plain Gold Y
  Generally distributed and moderately common in England, Wales and Ireland although not many seen on the Warren; larva feeds on Common Nettle, Honeysuckle and various other wild and cultivated plants.
- 2450 *Abrostola triplasia* Linn. The Spectacle Common resident; larva feeds on Common Nettle.
- 2452 *Catocala nupta* Linn. Red Underwing
  Rather scarce in the south-west; one seen on the Warren; larva feeds on Poplar, Willow and Aspen.
- 2469 Scoliopteryx libatrix Linn. The Herald Common resident; larva feeds on Sallow, Willow, Aspen, Osier and Poplar.
- 2470 *Phytometra viridaria* Cl. Small Purple-bar Common resident; larva feeds on Common Milkwort.
- 2473 Laspeyria flexula D. & S. Beautiful Hook-tip Common resident; larva feeds on lichens growing on Hawthorn, Blackthorn, Larch, Norway Spruce and fruit trees.
- 2474 *Rivula sericealis* Scop. Straw Dot Common resident; larva feeds on various grasses.
- 2477 *Hypena proboscidalis* Linn. The Snout Common resident; larva feeds on Common Nettle.
- 2489 Herminia tarsipennalis Treit. The Fan-foot Generally distributed and fairly common in England, Wales and Ireland, although not many seen on the Warren; larva feeds on withered leaves.
- 2492 *H. grisealis* D. & S. Small Fan-foot Generally distributed and fairly common in England, Wales and Ireland. Recorded by David C.G. Brown in July 1989; larva feeds on Oak and Alder eating the living leaves and decaying ones that have fallen.

### Addendum

1325 Platytes alpinella Hb.

A specimen of this species was taken at light on Dawlish Warren on 18.8.1990 by Ivor Larkin. An attempt to find additional examples on 22.8.1995 proved unsuccessful.

### Part 2

### A list of species which have been recorded from Dawlish Warren, but whose occurrence requires confirmation.

The records below represent species that are likely to occur in the locality, whether as residents, vagrants from nearby localities, or as immigrants. In many cases there is the possibility of confusion with other species, and voucher specimens would be required before the record could be confirmed.

A number of records cited below were taken from the card index system maintained in the Dawlish Warren nature reserve covering records submitted by various individuals between 1982 and 1992, and others taken from published accounts in the literature.

### **HEPIALIDAE**

0014 Hepialus humuli Linn. Ghost Moth

This widely distributed species is likely to occur at this site; larva feeds on roots of grasses and other plants. Recorded in 1987.

### LYCAENIDAE

1557 Quercusia quercus Linn. Purple Hairstreak

Generally distributed in Oak woodland or where Oak is available; possible vagrant from adjacent woodland; found in card index.

1572 Aricia agestis agestis D. & S. Brown Argus

Widely distributed in the southern half of England and Wales; the species was recorded by M. Cat on 13.8.89 and is listed in *Butterflies of Devon*; as this species could so easily be mistaken for a female *P. icarus* Common Blue, it would need a voucher to confirm; larva feeds on Rock Rose and Common Stork's-bill.

#### SATYRIDAE

1621 Hipparchia semele ssp. semele Linn. Grayling

Widely distributed particularly in coastal areas. This species was said to occur here prior to 1960 and the wardens at Dawlish Warren believe it may still occur on the Golf Course; larva feeds on grasses; found in card index.

### LASIOCAMPIDAE

1631 Poecilocampa populi Linn. December Moth

A widely distributed species, but poorly recorded unless light traps are operated in the early months of winter; larva feeds on a variety of deciduous trees. Recorded in 1985.

### DREPANIDAE

1647 Drepana cultraria Fabr. Barred Hook Tip

A locally common species found in Beech woods so it is not very likely but it could occur; larva feeds on Beech. Recorded in 1982.

#### **GEOMETRIDAE**

1680 Cyclophora punctaria Linn. Maidens Blush

Generally distributed and locally common in southern England; larva feeds on Oak and Birch. Recorded in 1984.

1718 Phibalapteryx virgata Hufn. Oblique Striped

E.D. Morgan in *TNHS Transactions* gives Dawlish Warren on Ladies Bedstraw, formerly plentiful on the sand dunes (Stidson, 1951, *Lepidoptera of Devon*: 51).

1726 Xanthorhoe quadrifasiata Cl. Large Twin-spot Carpet

Locally widespread in southern England; larva feeds on Bedstraw and other low growing plants. Recorded in 1983.

1734 Scotopteryx luridata Hufn. July Belle

Generally distributed and locally common, it is surprising not to have seen it in 1994; larva feeds on Gorse and Petty Whin. There is a possibility for this record to have been *S. mucronata*, a common species on nearby Haldon Moor. Recorded in 1985.

### 12 October:

1 M. stellatarum	2	R. sacraria
1 M. albipuncta	12	O. obstipata
1 M. vitellina	1	L. quadra
1 M. unipuncta	3	P. unionalis

### 13 October:

1 A. convolvuli	2 L. quadra
1 M. vitellina	1 Cyclophora puppillaria Hb.
1 S. cilium	3 R. sacraria
1 H. armigera	1 P. unionalis

14 October: Light rain an hour before dusk brought down Sahara dust onto cars and windows – migrants began to arrive immediately after dusk.

2	A. convolvuli	1	Trichoplusia ni Hb.
1	M. stellatarum	1	L. quadra
1	M. albipuncta	15	R. sacraria
3	M. vitellina	5	O. obstipata
1	M. unipuncta	1	Euchromius ocellea Haw.
1	M. loreyi	2	P. unionalis
12	S. exigua	2	V. atalanta
1	H. armigera	1	V. cardui

### (confirmed at BENHS exhibtion)\*

1 Chrysodeixis acuta Walk.

15 October:	
1 M. albpuncta	1 E. parva
2 M. vitellina	4 R. sacraria
5 S. exigua	1 H. undalis
2 E. ostrina	1 Utetheisa pulchella L. (netted at Kynance Cove in sunshine at 3pm)

### 16 October:

1	M. vitellina	10	R. sacraria
2	S. exigua	5	O. obstipata
1	H. armigera	2	H. undalis

### 17 October:

1 A. convolvuli	29 R. sacraria
2 M. vitellina	2 O. obstipata
2 M. loreyi	2 H. undalis
5 S. exigua	1 Uresiphita polygonalis D. & S.
1 H. armigera	1 Hymenia recurvalis Fab.
1 E. parva	1 P. unionalis

### 18 October:

1 A. convolvuli1 E. ostrina2 M. vitellina36 R. sacraria4 S. exigua2 P. unionalis

1 Heliothis peltigera D. & S.

In addition to this amazing list of migrants *Peridroma saucia* Hb., *Agrotis ipsilon* Hufn., *Autographa gamma* L., *Nomophila noctuella* D. & S., *Udea ferrugalis* Hübn. and *Plutella xylostella* L. were present in large numbers throughout.

More warm air from North Africa arrived in southern England on 26 October and this encouraged me to head off again to the South Coast, where m.v. lights at Studland, Dorset produced *Hippotion celerio* L., *R. sacraria*, *O. obstipata* and *P. unionalis*. The mild weather continued throughout the whole of October making it the warmest on record. The month ended on a high note for me with a perfect *Ochropleura leucogaster* Freyer (fifth for Great Britain) on 31 October at m.v. light on The Lizard, together with two *M. unipuncta*, one *M. vitellina*, one *M. loreyi* and *O. obstipata*.— DAVID C.G. BROWN, Jackson's Drive, Charlecote, Nr. Warwick CV35 9EW.

### **EDITORIAL NOTE:**

Recent investigations suggest (*Br. J. Ent. Nat. Hist.* 1991; **4**: 59-60 and 1995; **8**: 84) that certain separation of *Chrysodeixis acuta* from *C. chalcites* requires examination of the aedeagus of male specimens. The author's statement that the identification was "confirmed at BENHS Exhibition" is suggestive that genitalic examination may still be required, although the presence of Saharan dust on the capture date must strongly suggest that the determination is likely to be correct. – C.W.P.

### Hazards of butterfly collecting – that wonderful family feeling – Ghana, 1993

We parked in a little village in western Ghana, Malcolm Stark – a Canadian ecologist, myself, and five rangers from the Wildlife Department. The driver, Timothy, stayed behind. We were far from the beaten track, as demonstrated by the fact that everyone in the village came to gawk. This is not usually a problem in Ghana. We had been assured this was the closest we could get to the boundary between the forests of Kakum and Assin-Attandanso, home of the forest elephant, the bongo, many other rare animals – and, I hoped, lots of butterflies.

The rangers thought it was a 45-minute walk to the forest. I had been deskbound for the past six months and the temperature was just above 30°C. I would have preferred to drive right up, but it did not seem too bad.

We eventually reached the forest after a brisk march of just over two hours, crossing what appeared to be at least two perfectly adequate car tracks, finally reaching a little village at the forest edge. One of Malcolm's objectives on the trip was, quite literally, to turn some of the most noted poachers into gamekeepers. Ghana is hoping to make the elusive bongo and the forest elephant – a much smaller subspecies than the savannah one – into the basis for ecological tourism.



Yours truly in Kakum National Park – the picture is from a booklet supposed to project the concept of natural history reasearch.

Butterflies were fortunately not as elusive as the elephants and the bongo. More than eighty species were chalked up in a few hours, 'till the clouds started building up. In less than half an hour, in the way of the tropics. a thunderstorm spewed down more than 50mm of rain in an hour, and we reached the poachers' village soaked to the skin. The women of the village fussed over me like a regiment of mothers, bringing towels, dry loincloths, and wanting to light a fire. They had hardly seen a *bruni* (white man) before, and never one as wet as I. But being soaked at 30°C is not that much of a hardship – as long as the camera equipment is safely packed.

The two-hour walk back to the village through endless well-managed cocoa plantations was as boring as it was tiring. The village was small and with no electricity, so there was not even the reward of a cold beer at the end of the walk. But, then . . . ecological research in West Africa is not meant to be a piece of cake.

There must have been stronger stuff than beer available in the village, though, for we found Timothy drunk as a pope in the bosom of his extended family. In the immortal phrase of a former British cabinet secretary, Timothy had been "economical with the truth". He did not know how to get to the forest by car, but the thought of his family and country liquor also meant that he had not bothered to do much research on the subject. So we had all walked an unnecessary 24 kilometres to strengthen his family ties. I would have let him walk home, about the same distance we had done, but Malcolm was too soft-hearted for that!

The Central Region Development Commission (CEDECOM) is trying to make Kakum Forest the focus of ecological tourism. As far as I am concerned this particular hike was taking ecological tourism a bit too far.

Among the butterflies I had caught was a large and beautiful Glider of the genus *Cymothoe* Hb., belonging to the group of blood-red species, but this one a subdued orange-yellow. Already when I caught it, I knew it was something very special. That night, at Cape Coast, I found it to be *Cymothoe aubergeri*, a species described by Plantrou after a small series from Abengourou in Côte d'Ivoire in 1977, and not recorded since. But for Monsieur Auberger, my wife would now have had a truly splendid *Cymothoe nancy* as a reward for my frequent absences!

I am writing this in a small hotel called Dans Paradise in Cape Coast. There is no apostrophe, so I am not sure whether it is French for "in paradise" or English for "Dan's paradise", and the staff do not know. There is even the suggestion that it is named for the Dan tribe in neighbouring Côte d'Ivoire. I am, however, quite sure that it is the most absurdly mis-named hotel that I have ever stayed in. The name "Paradise" would not meet the standards of the UK Trades Descriptions Act.

But I must stop now. I really do not like the steady stream of little red ants emerging from disk drive B on the portable computer. The section on debugging in the manual says nothing about it!— TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 8PL.

### A possible second brood White Admiral *Ladoga camilla* (L.) (Lep.: Nymphalidae)?

Whilst spending a pleasant, mild early autumn afternoon at Hoads Wood, near Pluckley in Kent on 23 September 1995 I recorded a good number of overwintering larvae of the White Admiral. This was not unusual in this locality with its profuse honeysuckle long associated with the butterfly. What was most unusual was the sudden appearance of a fine, male White Admiral. No further butterflies were seen that day or on a visit the next week.

I have never encountered this species so late in the year and, given the long hot summer, it seems likely that this was a restricted second brood.

- Chris Samson, 30 Hockers Lane, Detling, Kent ME14 3JN.

# RELATIVE ABUNDANCE OF THE LADYBIRD BEETLES COCCINELLA SEPTEMPUNCTATA L. AND C. UNDECIMPUNCTATA LINN. (COL.: COCCINELLIDAE) AT 3414 METRES (11200 FEET) ALTITUDE IN INDIA

#### MOHAMMAD ARIF AND NARENDRA KUMAR

Defence Agricultural Research Laboratory, P.B. No. 40, Haldwani, Nainital (U.P.), India. Pin - 263 139.

COCCINELLA SEPTEMPUNCTATA L. is a natural enemy and predates a variety of insects, including Brachycaudus helichrysi Kalt infesting apricot, peach and plum, Eriosoma lanigerum Hausmn. on apple, Diaphornia citri Kuw. on citrus, Aphis gossypii Glover on cotton, Lipaphis crysimi Kalk on mustard and Chilo partellus Zell. and Perigrinus maidis Ashmead on millets (Nair, 1986). Pryrilla perpusilla Wlk. and Drosicha mangiferae are predated by C. septempunctata Linn. and C. undecim-punctata L. (Saxena and Rawat, 1968).

During a survey and collection of the insect fauna in high altitude areas of Leh: Ladakh (Jammu and Kashmir) situated at 3414 metres sea level in north-west Himalaya in 1992, examples of *Coccinella septempunctata* were observed feeding on aphids infesting cabbage, cauliflower, mustard and lucern grass. The adult beetles were collected and kept separately with aphids collected from different crops in petri dishes and were confirmed as predators of these aphids. Adult beetles of *C. undecimpunctata* were also noticed on these plants, but aphids were not predated.

Random sampling of beetle populations on aphid infested plants was carried out and the populations of both beetles were recorded (Table 1). Mustard plant was recorded as having the highest number of *C. septempunctata*.

Table 1. Populations of *Coccinella septempunctata* and *C. undecimpunctata* on different crops in north-west Himalaya.

Crop	Average population/plant			
	C. septempunctata L.	C. undecimpunctata L.		
Cabbage	4	1.5		
Cauliflower	2	0.5		
Mustard	9	2.0		
Lucern	2	-		

# Acknowledgements

The authors are grateful to Dr R.G. Booth and to the Director of the International Institute of Entomology, Commonwealth Agriculture Bureau.

London for indentification of insects. The authors are also thankful to Dr Brahma Singh, Director of the Field Research Laboratory, Leh (Jammu and Kashmir) for providing facilities to collect the specimens.

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Saxena, D.K. and Rawat, R.R., 1968. Bionomics of *Drosicha mangiferae* Green Citrus. *Madras Agric. J.* **55**: 309-313.

# First record of The Latin *Callopistria juventina* Stoll (Lep.: Noctuidae) in Guernsey

On 29 July 1995 I was surprised to find a fresh specimen of The Latin in my garden trap as this is the first occasion on which the species has been noted in Guernsey. Heath and Emmet (Eds. 1983. *Butterflies of Great Britain and Ireland* Vol. 10) describe it as being widespread, although local, in southern and central France as far north as Paris, but it is noted to have been spreading northwards since 1930. Lainé, M. (1978. *Macrolépidoptères de Normandie*, Vol. 3) describes it as being rare in Normandy and found in open woodland. Both works give its foodplant as bracken *Pteridium aquilinum*.— P.D.M. COSTEN, La Broderie, La Claire Mare, St. Peters, Guernsey GY7 9QA.

# African Grass Blue Zizeeria knysna knysna Trimen (Lep.: Lycaenidae) in Valencia Province, Spain

On 10 October 1995 whilst searching for butterflies along the irrigation canal that runs past my local village of Benifayo, Valencia, Spain, I took a single specimen of the African Grass Blue *Zizeeria knysna knysna* Trimen. I searched the area but found no other examples. Since that date I have found three other specimens in the same area, two females and one male. Several specimens were taken by Caron and Cottrill on the outskirts of Benidorm (Alicante) in May 1963 (Manley and Allcard, *A Field Guide to the Butterflies and Burnets of Spain*), but this is the first to be recorded in this area. Higgins and Riley (1977, *A Field Guide to the Butterflies of Britain and Europe*. Collins) list subspecies *knysna* Trimen as being "local in Provinces of Malaga, Granada, Cadiz and Seville".

Benifayo, Valencia is situated on the east coast of Spain approximately 132 kilometres north of Benidorm and 500 kilometres north-east of Malaga. – G. STEVENS, Urb. Pla de las Clotxes, II, Apt. de Correos 20, 46450

Benifayo, Valencia, Spain.

# ACINIA CORNICULATA (ZETT.) (DIP.: TEPHRITIDAE) AND OTHER INSECTS ON A RELICT DOWNLAND SITE IN SOUTH-EAST LONDON

#### RICHARD A. JONES

13 Bellwood Road, Nunhead, London SE15 3DE.

TEWKESBURY RESERVOIR is a small underground reservoir on Forest Hill, south-east London (grid reference TQ352736). It is just inside vice-county 16, West Kent, and the old Surrey/Kent border abuts the top edge of the locality. The roughly rectangular site is very small, approaching about one hectare in area, but presents an unusual coarse turf downland facing steeply east. It is tightly hemmed in by houses and gardens and the entire area is very much a part of urban and suburban London.

Since the plot is now threatened with development, I was asked by the local Tewkesbury Lodge Residents' Association to take a look at the site and assess its invertebrate interest. Nothing very much was expected, however what started out as a routine listing of a few common species turned into the discovery of something very unusual. A visit was made to the site on 31 July 1995.

The whole area was alive with the flutterings of Meadow Browns *Maniola jurtina* (L.), hundreds of them. In the space of about three hours, eleven species of butterfly were noted, in what was after all a plot the size of a moderate garden. And in what is a very well-surveyed part of the country, the Common Blue *Polyommatus icarus* Rott. was recorded new to the 2km square, tetrad TQ37L (Plant, 1987). The Six-spot Burnet *Zygaena filipendulae* L. was also recorded, new to the 10km square TQ37 (Plant, 1993).

Many of the other insects found were also typical downland species including the Bishop's Mitre shieldbug *Aelia acuminata* (L.), which occurred in some numbers. Thirteen species of hoverfly (Syrphidae) included *Xanthogramma pedissequum* (Harris). Other interesting flies were *Conops ceriaeformis* Meig. (Conopidae) and *Trypetoptera punctulata* (Scop.) (Sciomyzidae). The ant *Formica cunicularia* Latr. was active on the trunk of a large lime tree.

Common knapweed *Centaurea nigra* L. is a prominent feature of the site and sweeping this produced the common tephritid fly *Chaetostomella cylindrica* (Rob.-Desv.) together with a larger pink fly which at first I took to be one of the several *Tephritis* species. Later examination showed it to be a specimen of *Acinia corniculata*, a species accorded Red Data Book status 1 "Endangered" (Shirt, 1987).

There is a scattering of old records for this insect in south-east England, from Hampshire, Herefordshire, Somerset and Surrey. In the recent review of scarce and threatened flies (Falk, 1991) there are only three records since

the selected cut-off date of 1960. These are Wicken Fen (exact date unknown) and Chippenham Fen (1983 and 1986) in Cambridgeshire and Foulden Common (1980s) in Norfolk. Since that publication, two specimens were found on Chailey Common, East Sussex in 1993 (Hodge, 1994). All of these four sites are Local or National Nature Reserves.

The discovery of the insect on what appears to be a scrubby bit of wasteground in south-east London is, at first sight, rather strange. However, examination of old maps shows that the reservoir sits on a range of once open downs which stretch several miles from Deptford to Sydenham. Very little remains open today. The environs have been heavily developed over the last 150 years, and the reservoir site is now completely surrounded by houses and gardens. The only other vaguely natural part of this escarpment remaining is at Honor Oak, about 1 km north, but much of this area has grown into secondary woodland. A small open area does exist, above some allotments, but this too is now threatened with scrub encroachment. No knapweed could be found there during a brief visit on 5 August 1995, nor *Acinia corniculata*.

A return visit to Tewkebury Reservoir in 10 August 1995 quickly turned up another specimen of *Acinia*, suggesting that there is a viable colony on the site. It is tempting to suggest that after construction of the reservoir, a regime of mowing (or grazing) allowed it to revert to its former downland character, absorbing fauna and flora from the surrounding hills and fields. As urban development engulfed the site, it has retained some of its former characteristics and remains a relict downland site. Further visits to the area are intended if the threatened exploitation of the site can be put off.

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# A plea for cautious titles of notes and articles

A recent note in this journal (Willmott, K.J., 1995, *Ent. Rec.* **107**: 266) recording feeding damage on aspen that looked similar to that made by White Admiral larvae on honeysuckle *Lonicera periclymenum* was titled "Evidence of White Admiral butterfly (*Limenitis camilla* L.) larvae feeding on Aspen (*Populus tremula*)". The ensuing description of feeding damage on

the aspen immediately brought to my mind the easiest way of looking for young to mid-growth larvae of several species of aspen-feeding Notodontidae (perhaps in particular the Pale Prominent *Pterostoma palpina* (Clerck)) and one or other of these seems very much more likely than *L. camilla* to have been the cause.

In the absence of any consideration of the above possibility in the first note, it may seem perfectly adequate, and even helpful, for someone to write another note like this one to suggest a solution and leave it at that (until. perhaps, someone really does find a White Admiral caterpillar with aspen in its mouth). Indeed, this sort of exchange has been one of the Entomologist's Record's traditional roles and services to British Entomology. But the first note – and several others like it – does raise a general point about how we should record our observations and speculations without impeding the course of the science that – in one sense or another – we all use and furnish. It is largely because, increasingly, literature is trawled across to be served up as condensed, and sometimes even unsourced, information (that usually will have been processed by people lacking critical knowledge), that we have to be extremely careful not to contribute misinformation unwittingly. Thus, without wishing to dampen the spirit and vitality of speculation and debate in the pages of the Record, I think it is important for all of us to be aware that what is written – especially in the titles of notes etc – often ends up being abstracted, stripped of any cautionary part that may have indicated some sort of speculation, and can all too easily become embedded as a firm record in the secondary literature, thereby clogging it up with incorrect information. I rather laboriously unravelled one example in a paper for this journal (Shaw, M.R., 1993, Ent. Rec. 105: 31-36) that concerned the supposed host of a parasitic wasp – which is not so very different from the supposed foodplant of a butterfly. The title of another recent note in this journal, "Olethreutes mygindiana D. & S. (Lep.: Tortricidae) in South Shropshire (VC40) and the suspected parasitoid Glypta gracilis (Hellén) – new to Britain" (Poynton, D., 1995, Ent. Rec. 107: 307-309) provides a further example. In that case a very cautiously offered possible determination of a reared parasitoid has appeared in the title of the note in a form that will be abstracted as a firmly identified species new to Britain. Unfortunately the cautionary part of the title suggests that it was suspected of being reared from the host in question; whereas it was in fact certainly reared from that host, and it is the name of the parasitoid (and hence the status as a British insect of the species whose name was tentatively suggested), that is in doubt. The text of Poynton's note makes this reasonably clear, but the title does not, and it is the title that will be abstracted.

So, before submitting our notes and articles, I suggest we should consider very carefully whether or not the content really justifies the title we have chosen. I hope, too, that we can count on strong editorial control in the

*Record*, not only on this point but also to keep a watch on the speculation that is published.— MARK R. SHAW, National Museums of Scotland, Chambers Street, Edinburgh EH1 1JF.

#### **EDITORIAL NOTE:**

Dr Shaw's comments strike me as being particularly important and all contributors are urged most strongly to ensure that the title of their note or paper, whether submitted to this or any other journal, accurately reflects the content of the manuscript without ambiguity. There is no rule that governs the length of a title and there is nothing wrong with a lengthy one if the text so justifies. All papers submitted to this journal are now refereed before acceptance, as are most notes, including all those which introduce new species to the British fauna. As Editor, I reserve the right to suggest to authors alterations in the titles of their submissions as well as contents.

CWP

# Further records of the Eyed Ladybird *Anatis ocellata* (L.) (Col.: Coccinellidae) at light

The note by Paul Sokoloff (*Ent. Rec.* **107**: 310-311) concerning *Anatis ocellata* taken at m.v. light prompts me to place on record my own records of this species in m.v. light traps on two occasions in Sussex during the same period.

At Cow Gap, near Eastbourne, whilst trapping with Mark Parsons, Colin Pratt and Bernard Skinner on 26 July 1995 a single *A. ocellata* was found in one of the traps sited along a line of scrub away from the cliff edge. On private ground at Ashdown Forest on 1 August 1995 another example entered a trap sited in a large area of heathland.

Though coniferous trees are present in the vicinity of the Ashdown Forest trap, none are to be found at Cow Gap, where the scrub is comprised mainly of hawthorn. The dates of the captures coincide with considerable immigrant moth activity in Britain and strongly suggest that the ladybirds may themselves have originated at some distance from the capture sites.

– Dennis Dey, 26 Manor Avenue, Hassocks, West Sussex BN6 8NG.

# The Monarch butterfly *Danaus plexippus* (L.) (Lep.: Danaidae) in south Devon

At Strete, south Devon on the 10 October 1995 I watched a Monarch butterfly for 15 minutes flying and feeding on the flowers of *Buddleia* bushes. This specimen had a damaged right wing but was still able to fly strongly.

Two days later when travelling slowly along a country lane at Stokenham, South Devon a Monarch flew in front of my car at 11.30 hours. This was most surprising as the morning was dull and overcast with mist on the hilltops.

– A.J. BALDWIN, 33 Defoe Avenue, Kew Gardens, Surrey TW9 4DS.

# BUTTERFLIES IN NORTH-EAST GREECE 2 (4 - 11 MAY 1995)

#### ANDREW WAKEHAM-DAWSON

The Game Conservancy Trust, Fordingbridge, Hampshire SP6 1EF.

#### Introduction

IN LATE July/early August 1994, I surveyed butterflies on Mount Falakro, Mount Vrontous and in the foothills of Mount Orvilos in north-east Greece (Wakeham-Dawson, 1995). In order to further investigate the distribution and abundance of butterfly species in this region, I returned to continue the survey in May 1995. The current paper provides information on 52 species identified during the visit.

### Areas surveyed

I visited Mount Vrontous, north of Serres on 4 May. The weather was overcast, there was some rain and the temperature was about 15°C. The roadsides, which had been dry and brown during the previous visit, were rich with colourful flowers. However, there were few butterflies flying and once above 1500 metres, the mountain was still very wintry, with patchy snow and the beech *Fagus* trees still in tight bud. This was visibly true of the other mountains in the region (Menikio, Falakro, Pangeo), so it was clear that high altitude butterflies were unlikely to emerge for at least another two weeks.

Using Drama as a base, I therefore concentrated on lower areas. I visited the foothills to the south of Mount Falakro on 5 May. The weather was cool and the sunshine infrequent. In the kermes oak (*Quercus coccifera*) maquis between 400 and 600 metres, *Colias crocea\**, *Issoria lathonia*, *Coenonympha pamphilus*, *Polyommatus icarus* and *Glaucopsyche alexis* were among the most common species active in warmer, sheltered gullies. A few male *Cupido osiris* and *Pseudophilotes baton schiffermuelleri* were also present. A single male *Parnalius polyxena* was seen flying close to the ground.

On 6 May, I drove south to the low hills (c200 metres) around Amphipolis, where kermes oak maquis and rough pasture were interspersed with small fields of cereals. Herbicide use in these fields was evidently minimal, as they were rich in wild arable plant species such as pheasant's-eye *Adonis annua*, which constitute important food sources for a range of invertebrates.

Bladder senna *Colutea arborescens* was common and in full-flower, with a few bushes already showing bladder-like pods. This is the larval foodplant of *Iolana iolas* (*vide* Stempffer, 1966). No butterflies were on the wing until noon, when the sun came out. A large, blue butterfly came racing over the scrub with the characteristic rapid twisting flight of *Iolana iolas*. Later three

<sup>\*</sup> Authors of the scientific names of butterflies mentioned in the text of this paper may be found in Appendix 1.

other male *iolas* were seen patrolling around the bladder senna. No females were seen. A number of species including male *Callophrys rubi* flew around the kermes oaks. Other Polyommatinae included *Celastrina argiolus*, *Glaucopsyche alexis*, *Agrodiaetus thersites*, *Polyommatus icarus* and *Pseudophilotes baton schiffermuelleri*. A robber fly (Asilidae) was seen flying past holding a male *Glaucopsyche alexis*.

Four Hesperid species were present in grassy areas: *Pyrgus malvae*, *P. sidae*, *Carcharodus alceae* and *Carcharodus orientalis*. As the temperature rose *Pandoriana pandora* and *Limenitis reducta* appeared. A pair of the latter species were mating whilst in flight. A number of Pierid species including *Leptidea sinapis* and *Euchloe simplonia* were also present. However, there was no sign of *Parnalius cerisy* or *Heodes ottomanus* which Dacie *et al.* (1970) reported from this area.

In the evening of 6 May there was a rain storm over Drama and from then on the weather improved providing sunshine and temperatures of up to 30°C for the rest of the week. On 7 May I drove around the eastern flank of Mount Falakro, through beech and birch *Betula* woodland to 1000 metres. Butterflies seen here included *Scolitantides orion* basking on rocks by the roadside and worn (hibernated) *Gonepteryx farinosa*. On 8 May I drove south around Mount Pangeo to Kavala and back to Drama via Phillipi. It was very hot and the journey unrewarding in butterflies.

The warmer weather prompted a journey around the western side of Mount Falakro and up to c1600 metres on 9 May. On rocky slopes at c800 metres, *Artogeia ergane* were flying and three partially worn male *Anthocharis gruneri*. Above 1500 metres it was cold and snow still lay in some areas. In the afternoon, I drove back to the south side of Mount Falakro and walked up a stream valley (c600 metres). This valley was as rich in species as it had been in July/August. A female *Parnalius polyxena* was observed laying round, pale-cream coloured eggs singly on the underside of the leaves of round-leaved birchwort *Aristolochia rotunda*. Male *Melitaea phoebe*, *M. cinxia* and *Clossiana euphrosyne* were present, together with male *Lysandra bellargus*, male *Aricia anteros* and *Scolitantides orion* of both sexes. Single individuals of worn, hibernated *Nymphalis antiopa* (male), *N. polychloros* (female) and *Libythea celtis* (male) were seen, as were a few *Leptidea sinapis* and *Hamearis lucina*.

Six Hesperid species were present in the stream valley: *Pyrgus malvae*, *P. armoricanus*, *Spialia orbifer*, *Carcharodus alceae*, *C. orientalis* and *Erynnis tages*. The first three of these species are superficially similar, and can be confused when on the wing or even in a net. Examination of the male genitalia (Fig. 1) allows clear identification of dead specimens, while identification of live ones is possible by considering the ground-colour and white markings on the underside of the hind-wing (Fig. 2).

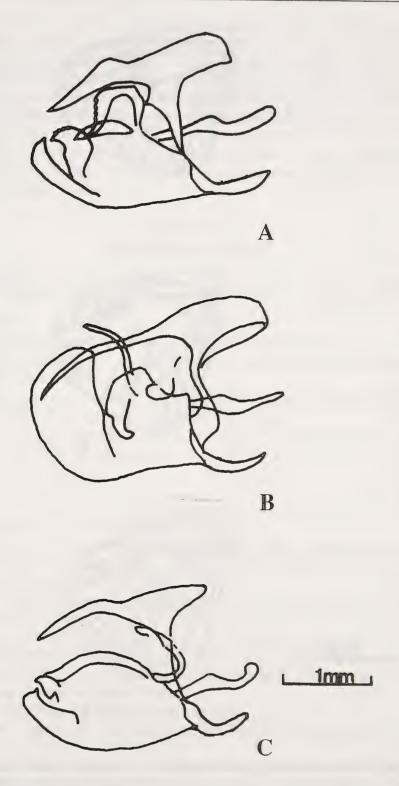
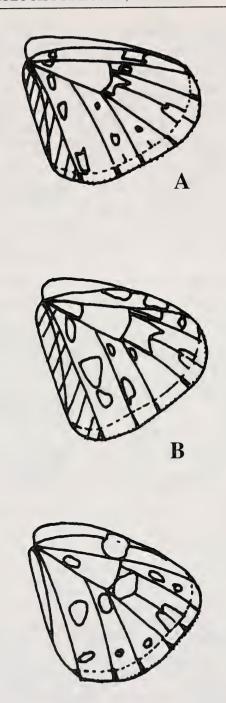


Figure 1. The male genitalia (lateral view) of (A) *Pyrgus malvae*, (B) *P. armoricanus* and (C) *Spialia orbifer* from north-east Greece in May 1995.



5mm

C

Figure 2. Underside hind-wing pattern of male (A) *Pyrgus malvae* (ground colour: grey brown or red-brown), (B) *P. armoricanus* (ground colour: yellowish-brown) and (C) *Spialia orbifer* (ground colour: red-brown) from north-east Greece in May 1995. Females similar.

On 10 May I drove south to Thessalonika across the Cholomon mountains. Many of the species already seen were flying. In low (<100 metres) farmland just north of the Cholomons, *Parnalius cerisy* were common, with both male and females on the wing. In a shaded river gully, birchwort *Aristolochia clematitis* was growing under scrub bushes. This is a larval foodplant of *Parnalius cerisy* (vide Ackery, 1975), but I found no eggs. The adult butterflies, which were very common in this area, had the same characteristic pungent smell as the *Aristolochia clematitus*, suggesting they had fed on it as larvae. *Parnalius polyxena* were also flying here, but were uncommon.

## Appendix 1.

## List of species recorded

Nomenclature is based on Higgins & Riley (1980), except for species marked with an asterisk (\*), the names of which follow Ackery (1975).

## **Papilionidae**

Papilio machaon L. - Uncommon, Amphipolis at c200 metres.

*Iphiclides podalirius* L. – Widespread and common up to 900 metres in maquis and woodland.

Parnalius polyxena\* D. & S. – Widespread, but never common. Mount Falakro and Cholomon mountains below 600 metres.

P. cerisy\* Godart. – Locally common in farmland at low level c100 metres, north of the Cholomon mountains.

#### Pieridae

Pieris brassicae L. - Widespread below 600 metres, but not common.

Artogeia rapae L. - Widespread and common.

A. mannii Mayer – Local and uncommon, Mount Falakro below 600 metres.

A. ergane Geyer – Locally common on rocky slopes between 600 and 900 metres, Mount Falakro.

Pontia daplidice L. – Uncommon below 200 metres in Cholomon mountains.

Euchloe simplonia Freyer - Common below 600 metres near the coast.

Anthocharis cardamines L. – Widespread and common to 1000 metres.

A. gruneri H.-S. – Local and uncommon over rocky slopes below beech woods at 900 metres, Mount Falakro.

Colias crocea Fourc. Widespread and common.

C. australis Verity – Local and uncommon, Mount Falakro at below 800 metres.

Gonepteryx farinosa Zell. L. – Widespread, but not common on Mount Falakro.

Leptidea sinapis L. – Widespread and common.

## Lycaenidae

Callophrys rubi L. -Locally common in scrub and woodland to 800 metres.

Lycaena phlaeas L. – Widespread, common.

Cupido osiris Meigen – Local, uncommon in Maquis at c500 metres, Mount Falakro, Cholomon Mountains.

Celastrina argiolus L. – Local and uncommon, Amphipolis and Mount Falakro.

Glaucopsyche alexis Poda – Widespread and common.

Iolana iolas Ochs. – Local and uncommon at Amphipolis.

Pseudophilotes baton schiffermuelleri Hemming – Locally common, Mount Falakro, Amphipolis.

Scolitantides orion Pallas – Local, uncommon, Mount Falakro to 800 metres.

Aricia agestis D. & S. – Widespread and common.

A. anteros Freyer – Local and uncommon, Mount Falakro at 600 metres.

Agrodiaetus thersites Cantener – Local and uncommon at Amphipolis.

Lysandra bellargus Rott. - Local and uncommon, Mount Falakro.

Polyommatus icarus Rott. – Widespread and common.

### Riodinidae

Hamearis lucina L. – Local and uncommon, Mount Falakro to 800 metres.

## Libytheidae

Libythea celtis Laich. - A single, hibernated male, Mount Falakro.

# Nymphalidae

Limenitis reducta Stdgr. - Local, uncommon at Amphipolis.

Nymphalis antiopa L. - A single hibernated male, Mount Falakro.

N. polychloros L. – A single hibernated female, Mount Falakro.

Inachis io L. - Widespread.

Vanessa atalanta L. - Widespread.

Cynthia cardui L. - Widespread to 1600 metres.

Aglais urticae L. - Widespread.

Pandoriana pandora D. & S. - Widespread and common.

Issoria lathonia L. – Widespread and very common.

Clossiana euphrosyne L. – Local and uncommon, Mount Falakro.

Melitaea cinxia L. - Widespread and common.

M. phoebe D. & S. – Locally common, Mount Falakro.

# Satyridae

Coenonympha pamphilus L. – Widespread and common.

Lasiommata megera L. - Widespread and common.

# Hesperiidae

Pyrgus malvae L. - Widespread.

P. armoricanus Oberthur – Widespread.

P. sidae Esper – Local and uncommon, Amphipolis.

Spialia orbifer Hb. – Locally common, Mount Falakro.

Carcharodus alceae Esper – Local and uncommon, Amphipolis and Mount Falakro.

C. orientalis Reverdin – Local and uncommon, Amphipolis and Mount Falakro.

Erynnis tages L. - Widespread and common.

### Acknowledgements

I thank the Greek Ministry of Agriculture, Athens for permission to conduct this study (Research Licence No. 62070/303). I thank Dr Nicholas Aebischer for helpful comments on an earlier draft of this paper.

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# Lomaspilis marginata (L.) (Lep.: Geometridae) in November

A fresh male of the common form *discocellaris* Strand (normal, plus isolated spot in forewing cell) attended my garden m.v. light on 9.xi.1995 – the second mild night following a week of anticyclonic weather with cold nights.

Although B. Skinner (1984, *Moths of the British Isles*. Viking) and C.W. Plant (1993, *The Larger Moths of the London Area*. LNHS) both cite the time of appearance of this moth as June and July, here in Dartford it usually continues until mid-August. In 1995, noted for its long, hot summer, it failed to be observed in August; the previous occasion when this occurred being 1976, also remembered for the long, hot summer. It is usually seen here also in May, and in 1992 was noted as early as 30 April. In 1975 a specimen was seen as late as 31 August.

Newman and Leeds (1913, Text Book of British Butterflies and Moths) state that the pupae of L. marginata may lie over for more than one winter, and from experience I have found that in other species occasional individuals which do not emerge in the first year are more liable to mistime their eventual emergence. Perhaps this November specimen is one of their number, and not to be considered a member of a token second generation?

- B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

## Two new migrant species for Bedfordshire

During 1995 two species were caught in the Rothamsted Insect Survey trap at Cockayne Hatley in Bedfordshire (RIS site 336; O.S. ref. TL253494) which are new for the county. On the night of 3/4 August a specimen of the White Point Mythimna albipuncta D. & S. was recorded. This species was reported from the Isles of Scilly on 5/6 August (Hale & Hicks, Ent. Rec. 107: 271-272) and therefore the Bedfordshire individual may have been part of a much larger immigration at that time. The other new species was the pyralid Margaritia sticticalis (Linn.) on 18/19 July. Although thought to be extinct as a resident in Britain it is known as a rare migrant (Parsons, M.S., 1993, JNCC UK Nature Conservation, No. 11), and 1995 seems to have been an exceptionally good year for it in England, possibly brought in from eastern Europe on the easterly winds. The other species of note this year from the Cockayne Hatley trap was a specimen of Ostrinia nubilalis (Hb.) on 1/2 August. This is only the fourth recorded occurrence of the species in the county, although it was thought to be breeding at one locality until the site was destroyed.

The 1994 records for Bedfordshire microlepidoptera have just been published (Manning, D.V., 1995, *Bedfordshire Naturalist* **49**: 62) and half of the 16 new records for the county were also from the Cockayne Hatley trap. Of particular interest was a specimen of the "Notable B" pyralid *Scoparia ancipitella* (La Harpe) between 2-8 August.— IAN WOIWOD, South Lodge, Cockayne Hatley, Sandy, Bedfordshire SG19 2EA and DAVID MANNING, 27 Glebe Rise, Sharnbrook, Bedford MK44 1JB.

# An unusual abundance of *Bledius germanicus* Wagner (Col.: Staphylinidae) inland during 1994

On 28 June 1994, whilst running five m.v. traps at the Essex Wildlife Trust's nature reserve at Rushy Mead, on the border of Hertfordshire/North Essex vice-counties, in the company of other members of the Bishops Stortford Moth Group, I was surprised to note the arrival of several hundred rather striking red and black staphylinid beetles. The "invasion" commenced at about midnight and continued for about an hour, with all five traps yielding good numbers of the species. Several examples were collected and these were later very kindly confirmed as *Bledius germanicus* by Alex Williams. I returned home to check my garden trap, only a short distance away, at about 02.00 hours on 29 June; this trap too contained very large numbers of the same species, though perhaps fewer than at Rushy Mead. In spite of searching and repeated light trapping, *B. germanicus* has not been seen before, or since, at either site.

According to Joy (1932, *A Practical Handbook of British Beetles*. Witherby), who does not include this particular species, members of the genus *Bledius* are frequently gregarious, "often being found in large numbers

in very restricted areas". He continues to inform the reader that they burrow into damp sand or mud, either on the flat or in banks, closing the mouth of the burrow with a small heap of excavated substrate. Hodge & Jones (1995, New British Beetles: species not in Joy's practical handbook. BENHS), list this species but give no ecological data. Sheila Wright (Ent. Rec. 107: 226) in recording this beetle as new to Nottinghamshire from two females taken at light in 1989 stated that this is a coastal species, associated fairly strictly with mud that has a high salt content adding that she had been informed by Peter Hammond that flying individuals are sometimes intercepted at some distance from salt water. In spite of this I can trace only one inland record at distance from the sea, apart from the Nottinghamshire record, given by Walker (1932, Ent. Mon. Mag.) for Oxford, also cited by Dr Wright, though three examples were taken at m.v. light on a single night in July 1995 by Sir John Dacie at Wimbledon, Surrey (antea: 71).

Whilst the coastal salt-marshes of Essex may be expected to have healthy populations of this species, the nearest lies some considerable distance from the Bishops Stortford area which must surely count as being "inland". On the other hand, Rushy Mead is a former sewage works, and the soil here has a high content of phosphates and nitrates; the beetle could perhaps have bred here, though this seems rather unlikely. The sudden occurrence of huge numbers at an inland site may, on the other hand, suggest an influx from somewhere else and it is interesting to note in this context that on the same evening I also took the fourth British example of the Tortricoid moth Eucosma metzneriana Tr. at around 22.30 hours (Ent. Rec. 107: 154-155). Rushy Mead lies in the Stort Valley and if there is any reason at all to believe that valleys may attract more immigrants, generally, than higher ground this is borne out by the lower numbers in my garden which is indeed at the top of a hill to the side of the valley. If the beetles had bred at Rushy Mead, or at another nearby part of the Stort Valley, then their dispersal away from the site (presumably if they reached my garden then they must have been spread all over the town) is in itself of interest. - C.W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.

#### **EDITORIAL NOTE:**

The above note, of which the author has kindly allowed me a preview, is of much interest in greatly extending our knowledge of the recent phenomenon of *Bledius* spp., chiefly *germanicus*, at m.v. light traps well inland. The huge numbers recorded at Rushy Mead (but only in 1994) are, of course, quite without precedent and truly extraordinary, very far exceeding anything of the sort I have seen here at Charlton – where the species was again present at my lamp last summer (1995), as well as the few preceding years, in some plenty along with *B. opacus* (Block) also in fair numbers. The latter is a not uncommon inland species but I have never seen it here before 1994. The two

others of the genus I have had here, *bicornis* (Germ.) and *fergussoni* Joy – both normally coastal – have not so far turned up again; cf. *Ent. Rec.* **96**: 44, **104**: 325. Like Mr Plant, I know of no early record of *germanicus* far inland other than Walker's from Oxford, which he cites.

I have no plausible explanation of what looks, on the surface, like a marked change in this beetle's habits or habitat. Yet I do not believe it is breeding anywhere close to the sites of capture; the facts seem rather to suggest massive migratory flights, but whether from our coasts or estuaries, or from the continent, we can at present only guess. I incline at the moment to the latter view. Other species of *Bledius* seem involved similarly, but to a far smaller extent.

Incidentally, the absence of *B. germanicus* from Joy's work is due to the fact that in 1932 the species had not been distinguished, in Britain, from its very close ally *spectabilis* Kraatz. It was added to our list as a new species, *limicola* Tott., in 1940, though Wagner had described his species in 1935. – A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8OG.

# Further observations on nocturnal flights of *Vespula* Thomson (Hymenoptera: Vespidae)

A few years ago I recorded some experiences with a garden moth trap which seemed to attract large numbers of wasps (in this case *Vespula vulgaris* (L.)) during its overnight operation (*Ent. Rec.* **104**: 322-323). I could find no previous records of nocturnal flights of the common wasp, and no readers came forward with any similar experiences.

During early October 1995 the need to catch an early morning train to London meant the trap had to be examined well before dawn. On several occasions wasps were seen actively (and once or twice aggressively!) flying around the light bulb. In later conversation Tony Rouse of Folkestone, Kent, told me he had observed wasps flying at all hours of the night during the summer of 1995 – seemingly attracted to a honeydew-covered sallow hedge near the trap. Thus it would appear that, given suitable conditions, wasps of the genus *Vespula* are active at all hours of day and night. It does, however, raise some interesting questions on their method of navigation.— PAUL SOKOLOFF, 4 Steep Close, Orpington, Kent BR6 6DS.

# Furcula bicuspis (Borkh.) (Lep.: Notodontidae) – further extension of range in the London area

I was extremely surprised to record a fine male of this species at my garden m.v. light on 26 May 1995. For north-west Kent M. Chalmers-Hunt (1962, *Butterflies and Moths of Kent*) cites no records for this part of the county except to comment that it inhabited Darenth Wood in the early nineteenth century. He described it as being scarce in Kent, and mainly wealden.

C.W. Plant (1993, *The Larger Moths of the London Area*. LNHS) notes that the species has been recorded for a number of places in recent years along the southern and south-eastern periphery of the London area, in Surrey and Kent, including suburban locations, and for Kent at least this would now seem to be the main centre of distribution of the species. The above record extends this area a little further to the north-east.— B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

# Further records of *Ectoedemia amani* Svensson (Lep.: Nepticulidae) in Waresley Wood, Huntingdonshire, VC31

Following the discovery of *Ectoedemia amani* in Waresley Wood on 12 July 1994, and the subsequent undecisive search for mines on 11 February 1995 (Dickerson, 1995. *Ectoedemia amani* Svensson, 1966 (Lep.: Nepticulidae) new to Britain. *Ent. Rec.* **107**: 163-164.), I decided to run a light in the same place during July 1995 to see if further specimens could be obtained.

On 10 July 1995 conditions were similar to those of the 12 July 1994, so I set up the light as before switching it on at 22.30 hours with the temperature at 20°C. The moths were identified as they settled on the sheet below the light. Those not readily identifiable were placed in boxes for identification later. Extra care being taken in collecting the smallest of the micros as we did not wish to miss any that could be *E. amani*.

The following day I looked through the micros and found nine moths which I thought possibly matched the specimen I took in 1994. Five of these were set for cabinet specimens while the other four were placed in tubes to dry out ready for dissection. These were dissected during the first week of August and all were found to be *E. amani*.

In Johansson *et al.* (1989. The Nepticulidae and Opostegidae (Lepidoptera) of North West Europe. *Fauna ent. scand.* **23**: 1-739.) it is stated that this moth flies in July and August, so I returned to the wood on 11 August as, once again, the weather conditions were similar to the previous nights, but this time no *E. amani* were seen.

As nine moths were taken on 10 July one must conclude that *E. amani* is breeding in Waresley Wood. Further work is planned for the autumn when I hope to locate the mines, and during the coming summers further light trapping will be done so that the flight period of *E. amani* in Waresley Wood can be discovered.— BARRY DICKERSON, 27 Andrew Road, Eynesbury. St. Neots, Cambridgeshire PE19 2QE.

# Ampedus nigrinus (Herbst) (Col.: Elateridae) larvae in birch

In June 1994, I dug three *Ampedus* larvae out of a rotten birch (*Betula*) stump in Glen Lonan, Argyll. I kept them in a jar with some of the wood from the log, expecting them to produce adults of *A. pomorum* (Herbst). Breaking open a piece of the wood in September 1994, I was surprised to

find therein an adult *A. nigrinus*. Seeking a larva to be preserved, I searched through the rest of the wood and found that the other two larvae had also produced *nigrinus* adults. The stump in which the larvae were found was sited at the edge of an oak-wood but there were other birch trees nearby. The nearest pine plantations were about 1km distant.

In Britain, *A. nigrinus* is predominantly an insect of Scottish pine-woods though it is also recorded from areas of Britain devoid of native pine-woods (Mendel, 1988, *Provisional Atlas of the click beetles (Coleoptera: Elateroidea) of the British Isles*). I have reared adults from larvae found in dead pine trees in Speyside and once from larvae found in a long established pine saw-dust heap at Rannoch. Fowler (1890, *Coleoptera of the British Islands*), associates the beetle primarily with conifers but states that it also occurs in oaks. Lohse (1979, *Die Käfer Mitteleuropas* 6), states that it occurs in rotten alder and, on occasions, in oak and other broad-leaved trees but does not mention conifers.— J.A. Owen, 8 Kingsdown Road, Epsom, Surrey KT17 3PU.

# Atomaria pseudatra Reitter (Col.: Cryptophagidae) rediscovered in Norfolk

On 21.x.1995, we visited Thompson Common along with Mr A.J.W. Allen where we collected some sievings from moss and other material around the base of grass tussocks in a marshy area. Examination of the sievings collected by J.A.O. later at home produced a small black *Atomaria* which ran down to *pseudatra* in the key provided by Johnson (1992, *Die Käfer Mitteleuropas* vol. 13). The specimen was sent to Mr Colin Johnson who very kindly confirmed the diagnosis. As it happened, the sievings had not been immediately discarded and their re-examination two weeks later provided a second specimen. On learning of these captures, M.J.C. recalled that he had waiting attention a small black *Atomaria* taken on 23.ix.1993 at the same part of Thompson Common. This proved to be a third example of the beetle.

A. pseudatra, formerly known as A. reitteri Lövendal, is one of the rarest British members of the genus. The species was added to the British list by Allen (1968, Ent. Rec. 80: 318-326), on the basis of a specimen taken by Crotch many years previously near Cambridge. Johnson (1993, Provisional atlas of the Cryptophagidae – Atomariinae (Coleoptera) of Britain and Ireland), summarising knowledge of A. pseudatra in Britain, gives only five records, all for single specimens taken prior to 1932 in wetlands in East Norfolk, Cambridgeshire and East Sussex. Our capture of one specimen in 1993 and two more in 1995 suggests that the species is established at the site.

Joy (1932, A Practical Handbook of British Beetles) did not include the species, because its presence in Britain was not realised at the time. Anyone applying his key to an example of pseudatra would reach the couplet

comprising paragraphs 14(15) A. atra (Herbst.) and 15(14) A. morio (Kolenati) but pseudatra does not fit well either description. The matter can readily be resolved with Johnson's key (loc. cit.).

Thompson Common is a Nature Reserve managed by the Norfolk Wildlife Trust. We thank the Trust for permission to collect on the Reserve. We thank also Mr Colin Johnson for checking our identifications. Mr A.J.W. Allen very kindly provided J.A.O. with transport.— J.A. Owen, 8 Kingsdown Road, Epsom, Surrey KT17 3PU and M.J. Collier, 67 Church Lane, Homersfield, Harleston, Norfolk IP20 0EU.

## **BOOK REVIEWS**

**Butterflies of Surrey** by **Graham A. Collins**. 87 pages, 16 colour plates; numerous maps. ISBN 0 9526065 0 X. Surrey Wildlife Trust, 1995. £12.00 from the Surrey Wildlife Trust, School Lane, Pirbright, Woking, Surrey GU24 0JN.

The county of Surrey, so close to London and well served by both natural history societies and entomologists, would, one might have guessed, have been an early candidate for a publication of a county list – but in fact no single publication on Surrey has been produced since the *Victoria County History* of 1902. The county has been arbitrarily divided in a number of lists – as part of the London Natural History Society area, for north-east and separately north-west Surrey. So this book collects together, for the first time, all the butterfly records for the county.

The Introduction covers a wide range of topics including the characteristics of the county, its recording history, bibliography of Surrey and adjacent counties, introductions to the main body of the work and checklists. The systematic part deals with the butterflies family by family. Each family is introduced by a descriptive narrative, and a typical larva is illustrated in colour. For each species there is a synopsis of its status, voltinism and foodplant, followed by general comments which include habitats in the county and records. For a significant species there are details of individual records and recorders. There is a distribution map and colour illustration for the majority of species. There are a number of appendices including a foodplant list, gazetteer, references and indices.

This is a well-written and well-produced book, at a sensible price. The text accompanying each species is particularly interesting and does not fall into the repetitive regurgitation formula so often found in butterfly books. Here is relevant information, often with a new slant. Although close to London, Surrey still boasts a number of interesting species such as *Hesperia comma*, *Leptidea sinapis*, *Thecla betulae*, *Hamearis lucina*, *Apatura iris* and

the declining *Boloria* species *selene* and *euphrosyne*. The colour photographs of living insects are attractive and well-reproduced, and the representative plates of larvae and ova are a useful addition for the general naturalist, although it would be a fortunate person to find a feral larva of *Papilio machaon* in Surrey! Extinct species, releases and those of doubtful origin are sensibly treated.

Of the rich Surrey fauna, four species are judged to have become extinct this century, these being the Silver-studded Blue (ssp. *cretaceus*), the High Brown Fritillary, the Marsh Fritillary and the Large Tortoiseshell – although there is no clear evidence that the latter was ever a true resident. Four other species have declined sufficiently to become a matter of concern, but remarkably seven species are reported to have increased considerably, including the Wood White, White Admiral and Purple Emperor.

Having read and reviewed many books over the years, the reviewer has occasionally been disappointed, sometimes baffled, often interested, but rarely unnerved. This work succeeded in the latter two categories! Very few books on butterflies have adopted the new ideas on taxonomy but the author, as might be expected, is bang up-to-date. Perhaps it is only the reviewer that feels faintly uneasy at the sight of a Meadow Brown flying under the banner of the Nymphalidae, or who feels a little nostalgic at the demotion of the Satyridae to sub-family status?

Paul Sokoloff

Keys to the Insects of the European Part of the USSR. Editor-in-Chief G.S. Medvedev. Volume 3, Hymenoptera part 4, edited by V.I. Tobias. xvi+833 pp., 263 text figures, hardbound. ISBN 1 886106 23 1. US\$147.50. Science Publishers Inc., North Lebanon, USA, 1995. (Sole European distributor – Universal Book Service, The Netherlands.)

This magnificent volume is an English translation of *Opredelitel' Nasekomykh Evropeiskoi Chasti SSSR*, *Tom 111*, *Pereponchatokrylye*, *Chetvertaia Chast* and deals with the Braconidae. Keys are provided for 20 of the 22 subfamilies known from the region, covering 1723 species belonging to 165 genera. No less than 123 new species are described. The keys are useful in that they not only include species that occur in the European part of the former USSR but also cover those to be found in Kazakhstan, former Soviet Central Asia, the Caucasus and, interestingly, much of western Europe – effectively most of the Western Palaearctic biogeographical region. It will surely be of great benefit to those studying this large and difficult group in the eastern European area to have such a complete set of identification keys.

Unfortunately, for reasons of space, the two large subfamilies Opiinae and Alysiinae are not included in this volume and will be included in the next one in this long series together with the Aphidiidae (aphid parasites). For all species, information is provided on their geographical distribution and,

where available, their synonymy. The introductory chapter outlines the morphology, biology, distribution and economic importance of the Braconidae. The species index is followed by a rather useful index of host species and I suspect that this may be of considerable help in tracking down the identification of many braconids.

Braconids are a large group. Indeed, with some 15,000 known species world-wide they are one of the largest families of the Hymenoptera: Parasitica. Unfortunately, many are relatively small and they are most frequently encountered when they suddenly emerge un-announced from the pupa of moth or other insect – an event not usually greeted with great enthusiasm by most collectors! Consequently, they do not generally attract the attention that they truly deserve. I doubt if this publication will do much to change all that but for those whose interest is truly entomological rather than pure collecting, this book provides the only available major review of the Braconidae of the region since the last century. It is well laid out, the language is readable and the illustrations are clear and well-defined. Whilst this is certainly not a book for the amateur it will surely find a useful niche on the bookshelves of our better museums, universities and other zoological institutions – certainly it is the sort of volume that I would expect to be able to access at such institutions.

Colin W. Plant

New British Beetles – Species not in Joy's practical handbook by Peter J. Hodge and Richard A. Jones. 175 pages. British Entomological and Natural History Society 1995. ISBN 1899935 01 0. Boards £24; Paperback £18.

It is perhaps slightly irritating that anyone wishing to work with a modern, definitive identification guide to British Coleoptera must first learn German and then arrange a bank loan to purchase the 14 or so volumes of Die Kafer Mitteleuropas (not to mention the seven additional volumes on ecology and larvae, plus several more to come). Volume XI part 3 of Kloet and Hincks' A check list of British Insects listed all the beetle species we thought we had in 1977, but of course gave no indication of how we might find an illustration, key or information on any of the species. The reviewer started "life" as a solitary coleopterist many years ago armed only with a copy of Linssen's Beetles of the British Isles, later graduating to a few copies of the Royal Entomological Society Handbooks for the identification of British insects and a battered second-hand copy of Joy's handbook which saw many further years of sterling service. But apart from a range of more modern specialist texts, the novice coleopterist has a really hard time tracking down details of his capture. The really interesting species never seem to key out properly in Joy - frustrating enough for one to consider taking up the Lepidoptera instead!

Over 650 species of British beetle are not found in Joy's *Handbook* and their details are scattered to the four winds. This new volume attempts to

remedy this situation. It is a curious book – not an identification guide, not a check list, not a text book, but more a resource. The authors clearly recognise their dilemma by including an apology in the opening chapter.

The introductory text provides hints on how to use the book and reviews check lists, recent books, journals and recording schemes. The bulk of the text is devoted to the beetles not in Joy. The treatment is novel, but it really works! Beetles are treated family by family. There is a brief introduction to each family – indicating, for example, where Joy's keys have now been superseded. Obvious errors in Joy's keys are listed, followed by a series of general references to the family. Defying convention, these are presented in date order – clearly the most useful form of presentation as the reader can instantly recognise the modern reference. The "new" species are then given individual treatment. A brief commentary on each is given which can include a diagnostic feature, similar species and a list of references for that species. Many references have a brief note appended so that the reader can identify those with a key or table. A bibliography and index completes the work.

Perhaps the most remarkable fact is that so many species of this well-studied order have been added to a standard work in a period of just over 60 years. The lion's (or is it beetle's?) share of new additions belongs, not surprisingly, to the Staphylinidae with the Curculionidae not far behind. The book is well laid out and produced, with few errors noticed. Some of the running heads have gone awry, but this in no way detracts from the utility of the work. The comprehensive coverage is quite remarkable for a book of this size, and the authors deserve commendation for producing this useful text, which could be fairly described as an essential companion for any coleopterist. No doubt a revised edition will be needed in a few years when many more beetles have been discovered, rediscovered, split or lumped!

Paul Sokoloff

# Announcement

# **Contents and Special Index**

With this edition we publish the Contents and Special Index for the 1995 volume. Our "Special Indexer", Lieut.-Colonel W.A.C. Carter, retires from the post this year and it is fitting that we pay tribute to Sam Carter's diligence over the years in undertaking this task. Even with the advent of computerised technology, preparation of a species index requires a meticulous eye for detail, and many hours of labour. Very few entomological journals now index to species level, but anyone who has tried to track down information on a particular species will offer up a silent vote of thanks for a good index!

Paul Sokoloff

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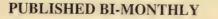
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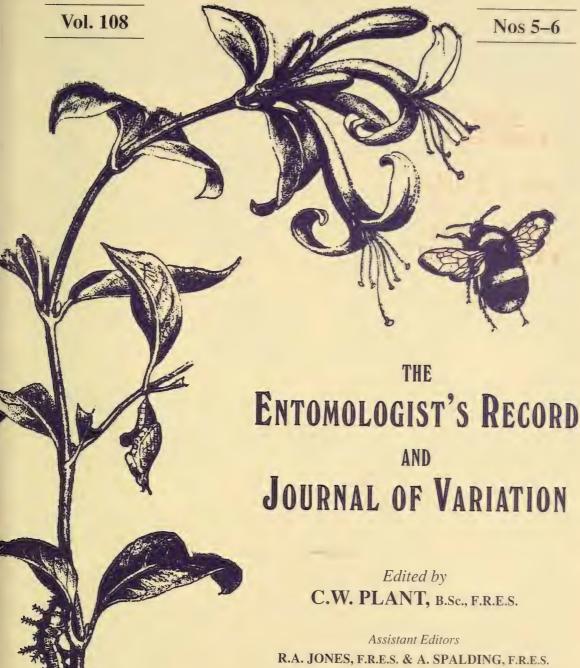
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May/June 1996

ISSN 0013-3916

# THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

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# AN ANALYSIS OF THE FORMS OF CHLOROCLYSTA TRUNCATA HUFN. (LEP.: GEOMETRIDAE) AT DARTFORD, KENT

#### BRIAN K. WEST

36 Briar Road, Dartford, Kent DA5 2HN.

AT FIRST SIGHT, considering the multiplicity and complexity of forms of this moth, an analysis of them for a particular area must appear daunting. However, for a specific locality only a few forms may be present, thus simplifying the task. At Dartford the species is a common visitor at my garden m.v. light in two well-marked and similar generations, in some ten readily recognised and relatively stable forms which can be named, and here the species is better described as polymorphic rather than merely variable or liable to produce many aberrations.

Identification of the forms has been based on the unpublished work of Goodson and Read, the series of specimens in the National Collection, and reference to original descriptions. It is unfortunate that there is no work on the Geometers corresponding to Tutt's volumes on the British Noctuae.

Perusal of "Goodson and Read" shows that for truncata most of the forms were described in the last century by Continental authors of continental specimens, and there is a plethora of synonyms. Many of these descriptions were vague and ambiguous, and complete reliance on "Goodson and Read" is not advocated. For example, their rendering of the description of ab. perfuscata Haw. is "The median area black" which is quite inadequate, but reference to Haworth's original description reveals a detailed and precise definition. On the other hand "Goodson and Read" give a quite good description of ab. mixta Prout - "The central area tawny, as in rufescens, the basal and marginal areas dark fuscous; hindwings somewhat darkened". At Dartford I see specimens which fit this description exactly, and so had presumed them to be ab. mixta. However, the row of specimens in the National Collection display to some degree the white postmedial and submarginal lines present in *rufescens*; in my specimens they are absent. Reference to the original description, hidden in a long paragraph in Prout (1909) is found, on page 44, the following: "Probably the semi-melanic specimens with a tawny central area, deserve a separate name as a subaberration (ab. mixta mihi, n. ab.". The introduction of the term "semimelanic" introduces a subjective element, and the ambiguity is compounded by Heydemann (1929) who portrays a figure labelled ab. mixta Prout which also possesses white postmedian and subterminal striga. Therefore in my analysis I have considered it prudent to add a description for each form, from "Goodson and Read" or the original.

My analysis is based on the first generation in 1993 (23 May to 4 July, omitting period 1 to 16 June), the second brood in 1994 (4 September to 4 November, omitting period 4 to 28 October) and the first generation in 1995 (22 May to 8 July). The breaks in recording were due to my absence abroad.

The potential value of this exercise is reduced due to delay as melanism is already on the wane in this species although what might be termed normal, non-melanic forms prevalent in East Kent are not yet found here. Because this contribution concerns not only the incidence of the various forms found at Dartford, but also melanism, a further subjective element becomes apparent in deciding which morphs are melanistic.

1. nigerrimata Fuchs (syns. nigerrima Schaw., melaina Müll.) (Plate A, Fig. 1) is the extreme melanic – unicolorous black or very dark grey, sometimes possessing a slightly darker median fascia which is just visible. Kettlewell (1973) classifies it as an industrial and non-industrial melanic found around Chester and Salford. The series in the National Collection is labelled "homozygote"; the figures for Dartford suggest that the form is not dominant

FORM	1993	1994	1995	
nigerrimata (homozygotes)	2.7	1.6	1.4	
nigerrimata (homozygotes) (faintly banded)	4.0	3.2	4.3	
perfuscata	44.7	47.1	44.5	
perfuscata (with pale submarginal area)	5.3	5.8	5.0	
nigrobrunneata	11.3	8.3	7.1	
Total of above melanics	68.0	66.0	62.3	
saturata	6.7	6.6	10.7	
rufescens	17.3	21.6	22.0	
mixta	6.7	5.8	5.0	
miscellaneous	1.3	-	_	
Sample	75	121	140	

Percentages of forms of *C. truncata* recorded at Dartford in 1993, 1994 and 1995 at garden m.v. light.

Chalmers-Hunt (1971) mentions *nigerrimata* for West Wickham, as does Plant (1993) for the London area in general. The incidence of melanism is listed for a number of localities in Britain in Kettlewell (*op. cit.*), and for Dulwich is the statement, for 1969, "all *truncata* black here", which might mean 100% homozygotes (*nigerrimata*); but might not the heterozygotes (*perfuscata* Haw.) also be called black? Much of the value of this list is lost due to the absence of either name or description of the insects recorded.

This form is not illustrated in the standard textbooks, and the figure purporting to be *nigerrimata* in Ford (1955) is the heterozygous *perfuscata*. At Dartford this is the one morph noted to have relatively declined in numbers in the past twenty years, from an estimated 10-15% in the 1970s to 5% today.

- 2. perfuscata Haw. There is some confusion as to which specimen the term should apply; my interpretation is that the dark moths shown in Skinner (1983) Pl. 8, Fig. 35 and in Ford (op. cit.) Pl. 13, Fig. 14 are typical examples of this form, while that in South (1939) Pl. 66, Fig. 3, labelled perfuscata is too pale. However, such specimens are labelled nigerrimata heterozygotes in the National Collection (which undoubtedly they are). while a series of brighter and more contrastingly marked insects are labelled perfuscata, as illustrated in Skinner (op. cit.) Pl. 8, Fig. 33, a specimen from Sussex, which is seen to have a wide, pale whitish submarginal area, and such specimens which occur in small numbers at Dartford I have listed separately. Plant (op. cit.) states that perfuscata is the commonest form of truncata in the London area, and I believe he uses the name in the same sense as I do; Chalmers-Hunt certainly does and has recorded it from West Wickham. The combined figures for these two interpretations of perfuscata for Dartford have remained at about 50% in each of the three years; however, a further group has been assessed separately as nigrobrunneata Heydemann, but they might well have been included under perfuscata.
- 3. nigrobrunneata Heydemann also has a black median band and a blackish terminal area, while the basal and antemedian areas together and the postmedian area are rust-brown. The figure in Skinner, Pl.8, Fig. 39 appears to fit this description. At Dartford the relative proportion is about 10%, but the subjective element in its determination is high. Heydemann (1929) states that it is obtained from a parentage nigerrimata x nigerrimata. My comment of this is that I have reared several very small broods from feral female nigerrimata (homozygotes), and all the moths reared have resembled the female parent. Therefore I suggest that it is preferable to consider nigrobrunneata and perfuscata together in the context of melanism, giving a combined figure of about 60%. The corresponding percentage for 1991 and 1992 was 65% (mihi, 1993) so a meteoric decline in melanism is not occurring in this species at present.
- **4.** *saturata* Steph. "forewings fuscous-ash, with an indistinct unsolid broad central fascia; towards the outer margin is an indistinct ferruginous fascia and some dusky clouds with an undulated white striga. Hindwings fuscescent" (Goodson and Read). Prout (1909) treats *saturata* as nearly synonymous with the type of *truncata*. Its incidence here is about 10%. It is not illustrated in Skinner (*op. cit.*), but in Barrett (1902) Pl. 355, Fig. 1c and South (*op. cit.*) Pl. 66, Fig. 4 are specimens similar to these greyish examples at Dartford, and which seem to answer the description above. It is a form seen commonly in rural Surrey at Abinger; I assume its numbers will increase relatively here as melanism declines.
- **5.** *rufescens* Strøm. The illustration in Skinner Pl. 8, Fig. 34 is an accurate representation of Dartford specimens, but that in Ford Pl. 13, Fig. 12 purporting to be *rufescens* is surely *ochreata* Schille "the median area light ochreous, and in a varying degree mixed with whitish" (Goodson and Read),

another aberration in the *rufescens* complex, and one I have not seen here. About 20% of Dartford *truncata* are *rufescens*, and it is equally common in both generations.

**6.** *mixta* Prout is a melanistic form, blackish or sooty-grey with a dull brown median patch as in *rufescens*, but it lacks all white markings. I believe it to have a parentage *nigerrimata* x *rufescens*; it represents about 5% of *truncata* here. There is some confusion concerning this form for Heydemann (1929) provides an illustration purporting to be *mixta*, which it is not as it retains the white strigae of *rufescens*, while a series labelled *mixta* in the National Collection is similarly mis-named, being *fusco-rufescens* Prout, however, in Goodson and Read (*ibid*) appears the significant statement under *fusco-rufescens* – "similar to the preceding *mixta* Prout but differs in the retention of some white markings in the proximal and distal areas and in the non-melanic hindwing".

Form *mixta* is readily recognisable and must surely be present in industrial areas where *nigerrimata* and *rufescens* occur together, yet it is absent from the National Collection, and perhaps consequently is not mentioned by Kettlewell (*ibid*); it is not portrayed in the standard British textbooks, although it is in the Continental works by Hoffmeyer (1949). Chalmers-Hunt gives it no mention, and although the author and Skinner live and have collected in the London area, neither possess specimens or are acquainted with the form, hence it not being portrayed in the wide selection of forms shown in the latter's well-known work.

- 7. russata Hbn. is one of several forms in which the median band includes some white. Chalmers-Hunt (op. cit.) states that in East Kent the type is the commonest form, but that russata and rufescens also occur. Thus the truncata population there is very different from that at Dartford forty miles distant. The appearance, or reappearance, of russata here will mark a significant step in the decline of melanism; however, this species appears to be undergoing a much slower transformation consequent upon decline in melanism than such species as Biston betularia L., Hydriomena impluviata D. & S. and H. furcata Thunb.
- **8.** miscellaneous. Remarkably, over more than two decades, specimens of *truncata* have varied only slightly and within the few forms recorded. In 1993 a paler than usual specimen was noted, resembling that illustrated in Barrett Pl. 355, Fig. 1, or that in Skinner Pl. 8, Fig. 36 in markings, but grey instead of having the faintly brownish tinge frequent among specimens from the Burren of Co. Clare, which in the National Collection are left un-named. This Dartford specimen would seem to be *griseofasciata* Müll. which possesses an unbroken grey band within the middle area stretching from the costa to the inner margin.

This analysis may well have been justified if it has merely described the truncata population here at this time, but its value will have been enhanced

if further such investigations are conducted by comparison. By giving descriptions as well as names I hope this will have been made easier; in several ways *truncata* is a an ideal species for such study.

## Acknowledgements

I am grateful to Mr D. Carter of the British Museum (Natural History) for permitting me to examine the National Collection, and the staff of the Entomological Library for their generous assistance.

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# SELIDOSEMA BRUNNEARIA VILL. (LEP.: GEOMETRIDAE): DIMORPHISM IN WESTERN IRELAND AND DESCRIPTION OF A NEW FORM

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IN AUGUST 1974 specimens were collected from a flourishing colony of this insect on the Carboniferous Limestone coast south of Fanore in Co. Clare. Later it became evident that two distinct forms of the male (no females were seen) were present, one with the normal grey ground colour with dark markings including border, the other dull brown with the dark markings less contrasting. Specimens intermediate in character were also seen.

Despite the habitat of grey rocks, this dull brown form seems to be another example of what Kettlewell (1973) terms Western Coastline Melanism, and corresponds with such species as *Eupithecia venosata* Fab. and more especially with *Camptogramma bilineata* L. which on the coast of western Ireland produces both normal and melanistic specimens.

# Description of new form

ab. atlantica ab. nov. (Plate A, Fig. 13)

All wings dull, medium to darkish brown, with no trace of grey; discal spot present; terminal fascia darker brown, appearing less contrasting with

ground colour than in normal specimens. Forewing shows purplish tinge in fresh specimens; median fascia usually present to a degree, but other markings (except terminal fascia) usually reduced or absent.

Type: Male Oughtdarra, Co. Clare, 4.viii.1974. B.K. West.

Paratype: Male Oughtdarra, Co. Clare, 4.viii.1974. B.K. West.

#### Reference

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### NEW ABERRATIONS OF BRITISH LEPIDOPTERA

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# Chloroclysta truncata Hufn. ab. rufofasciata ab. nov. (Plate A, Fig. 9)

Forewing: has a well-defined reddish-brown median fascia and basal area, separated one from the other by a slightly paler narrow band which itself has a dark striga running through its centre. The postmedian fascia is whitish ochreous, clearly defined on its inner margin, less so outwardly towards a reddish-brown terminal area, and posteriorly to a reddish-brown blotch on the dorsum close to the tornus. The apical area also reddish-brown, with some paler mottling. Two white dots are present on the lower half of the dorsum.

Type: Male, Kenmare, Co. Kerry, 6.vi.1977. B.K. West.

This form very closely resembles *Lampropteryx suffumata* D. & S.; the two white dots on the dorsum are a distinguishing feature. It is a very bright form, more in character with those frequently encountered in the Scottish Highlands, and quite unlike specimens usually found in Co. Clare.

# Ligdia adustata D. & S. ab. nebulata ab. nov. (Plate A, Fig. 12)

Forewing: the normal black postmedian fascia is replaced but one of grey coloration, giving much of the forewing a cloudy appearance; the normal black basal area is retained.

Type: Dartford Heath, West Kent, 4.v.1952. B.K. West.

This would seem to be a rare form; it is not represented in the National Collection.

# Ecliptopera silaceata D. & S. ab. reticulata ab. nov. (Plate A, Fig. 10)

Forewing: brown with all normally pale areas reduced in width to produce a network of pale ochreous lines.

Type: Male, Dartford, West Kent, 10.vii.1988. B.K. West.

Because of the reduction of pale coloration, the specimen has a somewhat melanistic appearance; presumably a rare form.

# Plagodis pulveraria L. ab. effusa ab. nov. (Plate A, Fig. 11)

Forewing: the dark median fascia lacks a clearly defined outer border, thus merging imperceptibly with the paler ground colour leaving a narrow,

ill-defined marginal band. The dark central fascia consequently appears much wider than normal.

Type: Rinnamona, Co. Clare, 5.vi.1987. B.K. West.

The National Collection contains several specimens from England, none with complete data. Undoubtedly an uncommon aberration which might be encountered anywhere.

## Arctia caja Hufn. ab. rivularis ab. nov. (Plate A, Fig. 14)

Forewing: deviates from normal in that the costal and dorsal brown blotches of the submarginal transverse "band" (the boot and cottage loaf marks) coalesce.

Type: Male, Dartford, Kent, 9.viii.1984. B.K. West.

This is a rare aberration affecting only one element of the forewing basic pattern. A complete submarginal band on the forewing is more often observed in conjunction with other forms of coalescence. It is particularly interesting to note that there is another form involving only this rudimentary band, ab. *schizomacula* Gdn. Smith in which both the boot and cottage loaf marks are each divided into two sections, a specimen of which was obtained at my garden m.v. trap on 9.viii.1983.

# Axylia putris L. ab. brunnea Goater (Plate A, Fig. 15)

By my error this aberration was included for photographing; as I believe it has not been illustrated before, it has been left in. It is known from three specimens taken in or near London – Mill Hill, Middlesex, 7.vii.1958 (B. Goater); Bushy, Hertfordshire, 1.vii.1978 (B. Goater); and Dartford, West Kent, 11.vii.1988 (B.K. West). The original description may be found in *Ent. Rec.* 81: 27.

# Orthosia incerta Hufn. ab. ocularis ab. nov. (Plate A, Fig. 16)

Forewing: dark brown, markings obscure except pale outlines of reniform and obicular stigmata and submarginal line which are conspicuous.

Type: Male, Dartford, West Kent, 23.iv.1975. B.K. West.

Several forms have conspicuous subterminal line, thus it is invariably present in the shiny dark *melaleuca* Lenz., and *flavilinea* Lempke is a blanket term covering all specimens with an enlarged, contrasting subterminal line; a similar conspicuous outline of the stigmata appears to be rare. All of the Types except *A. putris* ab. *brunnea* are in the author's collection.

# Acknowledgements

I wish to thank Mr David Wilson for the excellent coloured photographic illustration accompanying this paper and also covering those on *Chloroclysta truncata* and *Selidosema brunnearia*; Mr D. Carter of the British Museum (Natural History) for granting permission for me to examine the National Collection and relevant literature, and the staff of the Entomological Department library.

# PYRALID MOTHS IN PROFILE: PART 3\* – UDEA FULVALIS (HÜBNER)

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## Past history and present distribution

THE FIRST specimen of *Udea fulvalis* in Britain occurred at Branksome, near Poole, Dorset in 1926 (Curtis, 1968). The following year, a second specimen was taken on 8 August near Bournemouth, Hampshire (Clutterbuck, 1930) and in July 1930 it occurred at Parkstone, Dorset (Huggins, 1932). For several years the species was noted regularly and sometimes fairly commonly in all three localities. The adult was either disturbed from bushes and undergrowth by day or taken at the flowers of lavender and *Buddleia* at night. The larva, however, was never found in the wild. This temporary colonisation was comparatively short lived with the last specimens from Parkstone and Branksome occurring in 1936 and from the Bournemouth District in 1937 (Brown, 1961).

Almost twenty years passed before *fulvalis* reappeared and between 1955 and 1991 I have located a total of fourteen records either as specimens or unpublished reports:

30.7.1995	Swanage, Dorset	L. Price
8.1995	Totland, Isle of Wight	S.A. Knill-Jones
1.9.1958	Freshwater, Isle of Wight	S.A. Knill-Jones
16.8.1959	Freshwater, Isle of Wight	S.A. Knill-Jones
31.7.1967	South Walsham, Norfolk	D. Down
27.7.1971	Usk, Monmouthshire	G.N. Horton
20.7.1991	Highcliffe, Hampshire	E.H. Wild
30.7.1991	Durleston, Dorset	P. Davey
15.8.1991	Highcliffe, Hampshire	E.H. Wild
19.8.1991	(two) Highcliffe, Hampshire	E.H. Wild
21.8.1991	Lymington, Hampshire	A.J. Pickles
1.9.1991	Studland, Dorset	B. Skinner
2.9.1991	Durleston, Dorset	P. Davey

Although pure speculation, most of these records, all of which were at m.v. light, were probably of primary immigrants. However, since 1991 the moth has occurred annually at Highcliffe and is almost certainly resident, even though the feral larva remains undetected.

On the Isle of Wight it reappeared after thirty-four years at Freshwater on the 8 and 11.viii.1993 (Knill-Jones 1994). A further capture in 1994 and two more in 1995 again suggests local establishment. Elsewhere, it is certainly

<sup>\*</sup> Parts 1 & 2 of this series appeared in *Ent. Rec.* **107**: 147-149 & 241-243 respectively.

resident at Christchurch, Hampshire where it was first noted in 1993, more frequently in 1994 and in good numbers in 1995 (B. Goater *pers. comm.*).

There is a published reference to Herefordshire (Beirne, 1952), but I have been unable to locate any further details of this record.

#### Life History

The female taken at Studland in 1991 laid a few eggs on the side of a small plastic box and on the netting lid, but not on the leaves of mint provided. They were pale yellow and hatched within fifteen days. As a previous attempt to rear this species (Fryer, 1933) had established that the larva does not feed before hibernation they were provided with short lengths of plastic drinking straws into which they readily entered securing themselves with a few strands of silk. The straws were kept in an airtight container in a fridge maintained at 3°C. In early April one straw housing two larvae was brought up to room temperature (20°C). Within twenty-four hours the larvae began to wander about and were offered catmint Mentha sp. and wild clary Salvia pratense. However the larvae refused to feed and within a couple of days had starved to death. It was therefore with some trepidation a month later that the five remaining larvae were roused from their diapause. This time they started feeding without delay showing a marked preference for the wild clary. After thirty-two days, the full-grown larva (Plate B, Fig. 1) measured 20mm and had a yellowish-green ground colour. The skin was translucent with the gut appearing as a dark-green dorsal stripe. Either side of this was a broader greenish-white stripe. The thoracic legs were black and the head and prothoracic plate were yellowish-brown; the latter displaying a conspicuous black dash on each side. Each larva pupated within a flimsy cocoon (Plate B, Fig. 2) constructed from a criss-cross network of silk strands and was attached either to a leaf or the paper tissue lining the container.

The dark mahogany-coloured pupa (Plate B, Fig. 3) measured 12mm in length. The pupal period was about a month and all five moths emerged in early July.

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### PYRALID MOTHS IN PROFILE: PART 4 – SALEBRIOPSIS ALBICILLA (HERRICH-SCHÄFFER)

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#### Distribution and past history

THE DISCOVERY of the Scarce Hook-tip Sabra harpagula Esp. in 1961 in the Wye Valley, Monmouthshire (Anon, 1962) led to a further investigation of this apparently underworked area of small-leaved Lime Tilia cordata rich woodland. The following year saw the first British record of Fletcher's Pug Eupithecia egenaria H.-S. (Mere, 1962) and in 1964 single specimens of Salebriopsis albicilla, the third new species associated with small-leaved Lime, was taken independently by Messrs Mere and Newton (Mere, 1965; Newton, 1965).

Investigation in similar woodland on the Gloucestershire side of the Wye yielded both *harpagual* and *egenaria*, but failed to reveal the presence of the pyralid. The species is listed in the *Microlepidoptera of Gloucestershire* (Newton, 1985), but the records mentioned would appear to refer to Monmouthshire. It was not until a British Entomological and Natural History Society field meeting to Welshbury Wood, near Cinderford on 25.vi.1994, that *albicilla* was officially reported as new to Gloucestershire (Waring, 1996a).

Elsewhere it has been reported from Leigh Woods, Avon Gorge, North Somerset in June 1968 (Chappel, 1969) and June and July 1995 (Waring, 1996b).

#### Life history

There is no shortage of female specimens in collections, however no attempt appears to have been made to rear this species in Britain. The larva has not been found in the wild and so remains undescribed or figured in the British literature.

A female taken in Gloucestershire in June 1994 was held captive in a netting-covered small plastic box containing leaves of small-leaved Lime. The eggs which were pale yellow flecked with crimson were laid singly on the netting and randomly on the surface of the leaves, but never around the edges. They hatched from six to seven days. Throughout its life the larva lives under a flimsy silk web, skeletonising the surface of the leaves when young and eating out large windows when more mature. Several leaves became spun together, but this was possibly the result of several leaves and larvae in close proximity and not necessarily an indication of their habits in the wild. They were not obviously gregarious, but at the same time showed no aggression when inadvertently encountering one another.

The larval period lasted approximately fifteen days. The full-grown larva (Plate B, Fig.4) measured 12mm long, and was yellowish-green with several longitudinal lines, these and the segmental folds being of a darker green

colour. The head is pale yellowish-brown, flecked with darker brown andwith flesh-coloured mouth parts. The larvae were provided with several centimetres of a vermiculite and peat mixture from which they constructed oval and silk-lined cocoons (Plate B, Fig. 5) at or just below the surface.

The pupa (Plate B, Fig. 6) measured 9mm in length, and was shiny and medium brown in colour with green wing cases. A few of the pupae were gently forced and emerged in early spring, the rest were kept in an outside shed and emerged during the latter half of June.

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#### **BOOK REVIEW**

The Conservation of Butterflies in Britain, past and present by John Feltwell. A5 paperback, 242 pages with 17 black and white illustrations. ISBN: 0 907970 02 8. Wildlife Matters, Battle. £6.99 plus £1.95 UK p&p from Wildlife Matters, Marlham, Henley's Down, Battle, East Sussex TN33 9BN.

This is a companion book to the excellent *Natural History of Butterflies* by the same author (published in 1986). *The Conservation of Butterflies in Britain* is fully referenced and bang up-to-date, even including mention of the trial of two dealers selling wild-caught Chequered Skippers. It includes chapters on the history of butterfly conservation in Britain, why conserve butterflies?, flagship species, habitat management, threats, butterflies and the law, voluntary codes and nature reserves. Because of the pressures on the countryside in Britain, Feltwell stresses that it is vital to maintain habitats in good condition, whereas in countries with more space and less people natural succession can be allowed to take place as there will always be different areas becoming suitable for those butterflies which live in early successional habitats such as coppiced woodland; according to Feltwell, one fifth of British butterflies occur in these warm, early successional habitats. The chapter on early conservation in Britain is especially interesting, showing the key role that Lepidoptera played in early conservation attempts;

now we have reached the stage where the BTO received more government funding in a single year for bird research than butterfly conservation received in 20 years. The chapters on why conserve butterflies and flagship species? discuss the importance of butterflies as indicators of habitat quality, key species in the biodiversity challenge. The separate chapters on the conservation of three flagship species (Swallowtail, Large Copper and Large Blue) provide excellent detailed accounts, eg the note that as early as 1966 a farmer was being paid not to plough up land where the Large Blue occurred. Feltwell recognises the importance of the countryside as a dynamic entity and suggests that peat digging be restarted in the Broads to create better butterfly habitat; he would also like to see the Large Copper introduced into the Broads which have sufficient inter-linked habitat to sustain viable populations, unlike Woodwalton Fen where it now occurs in semi-captivity. He calls the Large Blue re-introduction a failure, but in fact the project has led to an increase in knowledge about the methodologies of researching butterflies and particularly how single-species conservation can create suitable conditions for a whole range of other species (plants as well as insects).

The chapter on threats includes details of the losses of Marsh Fritillary sanctuaries, with particular reference to threats to heathland and grassland. Feltwell mentions the damage done to high quality habitat by the construction of the Channel Tunnel, and discusses (rather inconclusively) the effect of agro-chemicals and acid rain on butterflies. He rather glosses over loss of habitat through hedgerow removal, which in some regions is quite crucial to the well-being of butterflies such as the White-letter Hairstreak, Gatekeeper, Ringlet, Meadow Brown, Brown Hairstreak, Speckled Wood and (in the west country) the Silver-washed Fritillary. The section on European and British law is comprehensive (with details of the Habitats Directive and its provisions) but no details of proposed SACs are given, as the book went to press before these were announced. Feltwell lists nature reserves on county-by-county basis and details National Nature Reserves and their butterfly interest. He argues that good localities for particular species should be kept confidential to avoid "predation" collectors and after a detailed debate about the merits or otherwise of collecting comes out against it. (My own feeling is that secrecy is self-defeating and localities for species should be made widely known; the best sites should not just be made available to a selected band of experts and their friends.)

The appendices are very useful, covering various codes of practice for reintroductions, collecting, butterfly releases, with a section on acronyms and a glossary. Small criticisms are that there is some repetition between chapters, which are self-contained – and therefore easy to dip into; there are a few typos and mistakes (*eg* Glanville Skipper); and little mention is made of the Butterfly Monitoring System although it has played a key role in butterfly conservation since its inception in 1976. Overall, however, the book is extremely good value, thoroughly recommended and worth a place on the bookshelves of all entomologists.

A. Spalding

# THE STATUS OF CROMBRUGGHIA LAETUS (ZELLER, 1847) (LEP.: PTEROPHORIDAE) IN BRITAIN WITH A REVIEW OF KNOWN RECORDS AND NOTES ON ITS SEPARATION FROM C. DISTANS (ZELLER, 1847)

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BECAUSE OF the similarity between *Crombrugghia laetus* (Zeller, 1847) and the closely related *C. distans* (Zeller, 1847) the early history of these two species in Britain is closely linked. *C. distans* was first added to the British list by Lord Walsingham, who captured adults near Thetford, Norfolk, in July 1868. Unfortunately, these were referred to as *laetus* by Jordan (1870) when he wrote about the discovery, although this mistake was eventually corrected. It was soon discovered that the summer brood of *distans* is distinctly smaller and paler than the spring brood, and for some years the name *laetus* was used, incorrectly, to describe the summer form of *distans*.

Both species exhibit variation in size, colour and intensity of pattern. *C. distans* from the Breckland district of Norfolk and Suffolk are generally large, dark and clearly marked; the ground colour is reddish-brown, almost chestnut. Those from the dunes and beaches of the south-east are pale and less heavily marked, the ground colour is duller, inclining to grey. The *laetus* that have been taken in this country are usually small, pale and lightly patterned, and resemble the south-east form of *distans* much more than the Breckland form.

Youden (1963), gives an excellent summary of developments up to 1906 when Tutt published his *Natural History of The British Lepidoptera*, Volume 5. In this book, which gives a comprehensive account of the plumes, Tutt published T.A. Chapman's drawings and descriptions of the genitalia of both species and, since the genitalia are quite distinct, the matter was settled. Our native species is *distans* and at that time no specimen of *laetus* had been found in the British Isles. B.P. Beirne (1952), confirms that *laetus* had not been recorded in this country, stating that British specimens examined by Pierce and Metcalfe were found to be a light form of *distans*.

#### Summary of known British records

The first confirmed discovery of *laetus* was made by G.H. Youden in 1961. His account (Youden, 1963) reads: "At about nine o'clock on the night of 10 September 1961, I netted on some heathy ground near Ashford, Kent, a plume that was flying around the m.v. lamp. On examination it proved to be a female in bred condition, but one that I did not recognise. The night was warm for the time of year with no wind but slight rain at times. The specimen was submitted to Mr M. Shaffer (Br. Mus. (S. Kensington)), who has determined it as *Crombrugghia laetus* Zeller, a species for which there is no previous confirmed occurrence in Britain."

The second specimen was taken by H.N. Michaelis flying over heather and rushes at Hiraethog Moors, Denbighshire on 9 July 1968; the date

coincided with a heavy fall of red dust from the Sahara and reports of many other migrants at that time. Subsequently, a specimen was discovered which had been taken by W. Rait Smith at East Hoathly in Sussex, on 1 August 1928; this is the earliest confirmed British specimen.

Two specimens were taken by P.N. Siddons on a cliff-top at Perranporth, Cornwall on 2 July 1986. A single specimen is reported in Agassiz (1988), but R. Heckford (*pers. comm.*) informs me that in fact there were two.

On 1 October 1990 a female was taken at Portland Bird Observatory by M. Cade. The identity of this specimen was confirmed by Dr J.R. Langmaid.

On 12 October 1995 a male was attracted to P. Davey's m.v. light at Gaunt's Common, east Dorset. The identity of this moth was confirmed by Dr P.H. Sterling who adds that it was taken during a period of considerable migrant activity.

In 1994 and 1995 whilst looking through various collections for plume records I came across four more specimens of *laetus*. In chronological order of capture these are:

A female in good condition but poorly set with the data, Beer (South Devon), August 1928, GW. The collector's initials probably refer to G. Watkinson, as other plumes from Beer in the same collection bear his name.

Two specimens were found in the Scarsdale Brown collection; a male on 3 August 1946, Parley, Dorset (S.C.S. Brown), and another male in very good condition, 3 July 1947, Bournemouth (S.C.S. Brown).

Finally, in December 1995 whilst looking through the collections in the Natural History Museum I found a male specimen caught on 4 August 1947 at Looe, Cornwall, by S.N.A. Jacobs.

Although there is little data to go on, an interesting pattern is beginning to emerge. There appear to have been two waves of immigration of laetus in the first half of this century. The first was in 1928 when specimens were caught at East Hoathly, Sussex and Beer in Devon, both specimens being taken in the month of August. The second immigration took place in 1946-7 when two specimens were recorded in Dorset and one in West Cornwall, these records are in July and August. 1947 was an outstanding year for migrants and many contemporary records exist reporting this. Since 1947 only singletons have been recorded but all have been associated with migrant activity. 1961 was the year in which Utethesia pulchella L. was recorded in Britain for the first time for many years. The immigration of pulchella started in late August and continued until October, coinciding closely with the record of laetus from Kent on 10 September. Of the thirty pulchella recorded no less than six were from Kent. The 1968 specimen was associated with a fall of red dust from the Sahara, many other migrants were recorded at the same time. Bretherton and Chalmers-Hunt (1987), in their review of immigrant Lepidoptera for 1986 write of ". . . a major influx (of migrants) to the south-west in the last days of June and again in mid-July."

Paul Siddons' record from Perranporth on 2 July 1986 fits in well with this wave of migrants. The Portland record on 1 October 1990 again coincided with migrant activity, on the same night, but in Cornwall, I recorded two *Utethesia pulchella* to m.v. light. In his letter to me Dr P.H. Sterling reports that the 1995 record coincided with a period of considerable migrant activity.

All the records except one are within thirty miles of the south coast of Britain, stretching from Kent to Cornwall. The pattern of records, associated with known migrant activity, confirms that the insect is a migrant rather than a rare resident in this country, although the two specimens found together in Cornwall and the two records from Bournemouth and Parley in 1946 and 1947 may indicate that the species had become locally established for a short time. Immigrant records of the very rare *Utethesia pulchella* coincided with *laetus* in the years 1947, 1961 and 1990 and suggest the possibility of a common origin for both species.

Gielis, 1996, and others give Andryale integrifolia (=sinuata) L. as the foodplant for laetus. In the same work Gielis synonymised Crombrugghia lantoscanus (Zeller, 1847) with laetus. The foodplant of lantoscanus is given as Hieracium lanatum Vill. Neither of these plants occurs naturally in Britain. However, it is possible that laetus can feed on other members of the Compositae including species which occur in this country.

#### Identification

Because of the variety shown by both *C. laetus* and *C. distans* it is not possible to identify all specimens with certainty from wing markings alone (Plate B, Figs. 7 & 8). However, in many cases a provisional identification is possible but this should be confirmed by examination of the genitalia. The following points will help with the initial identification.

C. distans is generally larger, around 20mm wingspan, and has a greyishbrown ground colour; C. laetus is smaller, about 18mm, and is light ochreous-brown. C. laetus has a black spot on the forewing at one third of the wing distance, this spot can be distinct or very weak; in distans the spot is absent or very weak. The termen of the posterior lobe of the forewing is angled and faces diagonally backwards, in both species the termen has a generous fringe of greyish hairs becoming pale posteriorly. In laetus the anterior half of the fringe has a narrow row of blackish scales; in distans the scales are missing and replaced by short whitish hairs. The genitalia of the two species (Figs. 1-9), are quite distinct. In the males the valve of distans has a pointed paddle-shaped extension which accounts for about four-tenths of the whole length of the valve; In laetus the extension is rounded and only two-tenths of the length of the valve. The tegumen has two long processes. in distans the tip is rounded, quite smooth and the anterior side is concave; in laetus the tip is square and slightly hooked (Figs. 1 and 2 which show the tegumen twisted to different angles) and the anterior side is convex. In the females the seventh tergite has a plate which extends towards the ostium. In laetus the plate is well-developed forming two well-rounded bulges, the

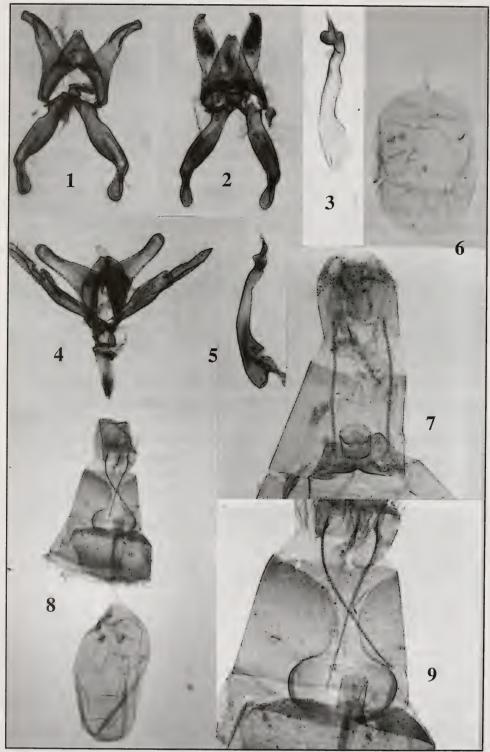


Fig. 1. Crombrugghia laetus, male. BM(NH) slide 10698; Fig. 2. C. laetus, male. BM(NH) slide 13571; Fig. 3. C. laetus, male, aedeagus. BM(NH) slide 13571; Fig. 4. C. distans, male. BM(NH) slide 17047; Fig. 5. C. distans, male, aedeagus. BM(NH) slide 17047; Fig. 6. C. laetus, female, bursa copulatrix. BM(NH) slide 13169; Fig. 7. C. laetus, female. BM(NH) slide 13169; Fig. 8. C. distans, female. BM(NH) slide 13587; Fig. 9. C. distans, female. BM(NH) slide 13587.

length of each bulge is about the same as its width; in *distans* the plate is shorter and much less curved, the length of each bulge is about one third of its width (Figs. 7 & 9). In a set specimen it is sometimes possible to see the genitalia sufficiently well to confirm identification without the necessity of making a genitalia mount. In the male the hooked tip to the tegumen and the short, rounded end of the valve confirm *laetus*, and in the female the shape of the tergite plate, which is completely external, is normally quite clear.

Crombrugghia laetus has long been confused with C. distans. In a relatively short search four misidentified laetus have been found which has increased the number of known British specimens by 50%. I am convinced that there are more specimens of this moth in collections up and down the country and I urge entomologists to check for this species now. Any specimen which appears to be distans but which has been caught near the south coast of England, or in a habitat not typical of distans, or at an unusual time of the year for distans should have its identity checked immediately.

#### Acknowledgements

My thanks go to Bernard Skinner for the original photograph of *laetus* without which I would not have recognised the species, Laurie Christie who allowed me access to his extensive collection, Michael Shaffer of the British Museum (Natural History) who provided photographs of genitalia and general advice, Dr David Agassiz for preparing genitalia slides and confirming the identity of four of the specimens listed above, Dr Phil Sterling for confirming the Gaunt's Common record and Bob Heckford for information about the Perranporth records.

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Field guide to the insects of Britain and northern Europe by Bob Gibbons. 320 pp. alternate pages in colour. 120x195mm. Boards. ISBN 1 85223 895 X. The Crowood Press, 1995, £14.99.

This is a new publication, unrelated to the work of the same name by Michael Chinery published in 1973, which was revised and reissued in 1986 with an amended title – Collin's guide to the insects of Britain and Western Europe. The scope of the current work is broadly similar, serving in a portable format as a guide for the general naturalist. The substantive difference is that each species covered is illustrated by a photograph of a living insect, rather than by a painting. Introductory material covers a range of topics from structure and basic physiology through life history, ecology and conservation, to finding and photographing insects. There is a brief, illustrated key to the main groups of adult insect which leads into the main body of the book which covers representatives from all groups of European insects.

The format adopted is of text on one page and colour photographs on the opposite page. The text takes the form of a brief description of the insect, its habitat, status and distribution, season, and notes on similar species. Usually between six and eight species are covered on each page. Species not occurring in the UK are marked (not always accurately) with a symbol. The book concludes with an illustrated section on plant galls and an index.

Clearly it would be impossible to cover all the European species in a single, portable handbook, but the coverage is very good from the point of view of the general naturalist. Using photographs of insects in their normal resting position is a tremendous help to identification in the field, it being unnecessary to translate the "set" specimen image so often found in field guides. The quality of the photography is very good and for the majority of cases the picture and the description match. The section of galls is useful, although coverage is restricted to the more common insect-induced galls, with a couple of common mite galls for comparison. A few errors were noted - Oecophora bractella is described on page 200 (and erroneously billed as not occurring in the UK) but illustrated with a photograph of Cydia aurana, and on page 186 a Mesapamea species does duty for the Dot Moth Melanchra persicariae. Ten out of forty hoverflies are misidentified and on page 232 Brachypalpoides lenta is used, with remarkable economy, to illustrate both Xylota segnis and X. syvarum! No doubt there are others in the remaining orders. However, these are not serious problems, and the book should prove very valuable to the general naturalist keen to learn more about the many species of insect in Europe.

Paul Sokoloff

# PREDATION OF APHIDECTA OBLITERATA (L.) (COL.: COCCINELLIDAE) BY RAINBOW TROUT SALMO IRIDEUS

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MOST LADYBIRDS ARE warningly coloured and contain distasteful or toxic chemicals as a defence against predation by vertebrates. Many studies have investigated the palatability of ladybirds to birds, but some have also been offered to three of the other main vertebrate groups; mammals, reptiles and amphibians (Morgan, 1896; Pocock, 1991; Morton Jones, 1932; Frazer & Rothschild, 1960; Meinwald *et al.*, 1968; Pasteels *et al.*, 1973; Marples *et al.*, 1989; Majerus & Majerus, in press). We can find no record of the palatability of ladybirds to fish being tested, nor can we find any records of coccinellids being preyed upon by fish. We wish to put such an occurrence on record here.

On the evening of 19 August 1995, Neale Taylor caught a rainbow trout (Salmo irideus) on an upland loch, Lochenbreck Loch, near Gatehouse of Fleet, Kirkcudbrightshire. On gutting the fish and checking the stomach contents (a good angler should always try to determine what his quarry has been eating), he found three larch ladybirds (Aphidecta obliterata (L.)), which were identified by his wife Helen Taylor. The loch is bordered on three sides by conifer plantations, mainly sitka spruce (Picea sitchensis), lodgepole pine (Pinus contorta) and Japanese larch (Larix kaempferi). Aphidecta obliterata was very common in the area during the summer.

This observation is interesting for not only because, at present, it appears to be unique, but because the coccinellid involved was *A. obliterata*. This ladybird is unusual because, unlike most coccinellids, it is not warningly coloured, the elytra, in Britain, being almost invariably light to mid-brown and either unmarked or bearing a pair of small diagonal streaks towards the posterior. The lack of warning coloration in this species has been the subject of some speculation. Several authors have stated that *A. obliterata* does not reflex bleed (secrete droplets of fluid from pores in the legs) (Brakefield, 1985; MAjerus & Kearns, 1989). This statement is erroneous (Majerus, 1994). The reflex fluid produced by this species is much clearer and paler than that of most other ladybirds, and is consequently more difficult to see, particularly against the usual light-brown elytra of this species.

Although A. obliterata does reflex bleed, the question of whether this species is chemically protected is unresolved. Pasteels et al. (1973) could detect no alkaloids in the reflex blood of this species and argued that the species is unlikely to be unpalatable to vertebrate predators, but relies on camouflage to avoid the attention of predators. In support of this contention, Pasteels et al. (op. cit.) published the results of feeding A. obliterata to Japanese quail, showing that the quail ate all the ladybirds offered. The value

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of these tests is not clear as two out of the three quail used also ate all *Adalia bipunctata* L. and *Caliva 14-guttata* (L.) offered, and both these species contain alkaloids (Tursch *et al.*, 1973; Pasteels *et al.*, 1973) and have been found to be repulsive to some birds (Marples, 1990; Majerus, unpublished data).

It is, however, certainly possible that A. obliterata secretes reflex fluid that has no defensive properties. Its ability to reflex bleed may be a hang-over from its evolutionary past, just as, for example, our appendix is. However, although this is possible, its likelihood has to be judged in the light of the cost of reflex bleeding when no benefit is gained by deterring predators. It is known that fluid loss can be highly detrimental to coccinellids, particularly in the winter when opportunities to replenish reserves are rare (Majerus, 1994). One might then expect that there would be a significant selection pressure to relinquish the ability to reflex bleed if such behaviour bears a cost and confers no benefit. In addition, it should be realised that the failure to find alkaloids in the reflex fluid of A. obliterata does not mean that the reflex fluid cannot have protective properties. Many other types of defensive chemical are known. Indeed, Pasteels et al. (1973) report that two other species of coccinellid in which alkaloids were not found (Subcoccinella 24punctata (L.) and Rhizobius litura Fabr.) were not attacked by ants. In this regard it is notable that one of us who has tasted the reflex fluid of A. obliterata found it to be most disagreeable.

One piece of circumstantial evidence that A. obliterata is less well protected chemically than other coccinellids, comes from work on the interactions between ladybirds and aphid-tending wood ants (Formica rufa L.) (Majerus, 1989). When ten live ladybirds of each of nine species were placed in the vicinity of ant-tending aphid colonies, most (apart from the myrmecophilous ladybird Coccinella magnifica Redtenbacher) vigorously attacked by the ants. The majority of the ladybirds ran away or dropped off the foliage when attacked. The ants did not attempt to capture or kill most of the ladybirds. They appeared to be interested only in removing them from the vicinity of the aphid colonies. Only nine ladybirds were killed by the ants. One, a 14-spot ladybird (*Propylea 14-punctata* (L.)) was left after being killed. The other eight were carried away towards the nest. Of these, one was a pine ladybird (Exochomus 4-pustulatus (L.)), the other seven being A. obliterata. Additional support comes from tests in which dead A. obliterata that had been torn open were offered to Myrmica rubra (L.) ants and were found to be acceptable as food (Pasteels et al., 1973).

Two questions arise from the above observation. First, do fish commonly eat ladybirds of a range of species, or are the chemical defences of most coccinellids effective against them? Second, how palatable is *A. obliterata* to vertebrates other than fish? Both of these questions should be answerable with simple experiments. For now we simply add one more to the growing list of known enemies of ladybirds.

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#### Exceptionally early spring records in 1995

The relatively mild winter 1994/95 and several very warm days in late April 1995 at Dartford have resulted in several moth species emerging earlier than usual. In the species listed all but one, possibly two, concern over-wintering pupae, and for all species except one the emergence has been earlier than recorded previously over a twenty-five year period. All records refer to my garden m.v. light. The table gives the earliest record for 1995 for each species, the previous earliest record and the average first record for the period.

Most of these early records reflect a general early emergence in the species, this being especially noteworthy in the case of *Selenia tetralunaria*.

Species	1995	Previous earliest		Average
Pheosia tremula L.	30.iv.	6.v.	1990	22.v.
Falcaria lacertinaria L.	30.iv.	2.v.	1975	19.v.
Acronicta psi L.	1.v.	5.v.	1976	24.v.
Acronicta rumicis L.	23.iv.	16.iv.	1980	16.v.
Abrostola tripartita Hufn.	17.iv.	5.v.	1976/90	24.v.
Lobophora halterata Hufn.	24.iv.	9.v.	1993	28.v.
Thera britannica Turn.	24.iv.	5.v.	1990	31.v.
Selenia tetralunaria Hufn.	31.iii.	17.iv.	1988	7.v.
Idaea aversata L.	1.vi.	3.vi.	1985	24.vi.
Colocasia coryli L.	5.iv.	13.iv.	1980	2.v.

Specimens appeared as follows: 31.iii.(3), 2.iv., 2.v. and 6.v. The second generation produced its first specimen on 7 July, followed by a dozen others until 6 August. Until 1989 the average first date for this generation was 24 July, but from 1990 to 1994 it was 13 July. Of the other species *Pheosia tremula* and *Falcaria lacertinaria* produced a very early first generation, other specimens being recorded in the days following the first arrivals. *Acronicta psi* and *A. rumicis* are noted for irregularity in appearance; *A. psi* was not seen again until 17 June, and its main emergence was during July and August, but *A. rumicis* was seen mainly in the first six days of May, including five on 4 May and the last of fifteen on 3 June, so in general an early first generation.

In other species mentioned the first record for the season was an isolated one; thus although *Abrostola tripartita* was seen on 17 April, the next one did not appear until 1 May, and the third on 7 May.

1995 has followed a short sequence of mild winters, but unlike some of the previous years it was followed by a warm April and May. Perhaps the main value of reporting these early emergences is to remind us that such phenomena recur at intervals in our variable climate, and that they are not something new. Thus in *Ent. Rec.* 28 it is reported that on 10 February 1916 L.W. Newman exhibited at the South London Natural History Society meeting hawthorn almost fully out in leaf and fully opened sallow catkins.—B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

#### THREE NEW ELACHISTA SPECIES OF THE COLLITELLA-COMPLEX FROM ITALY, FRANCE, AUSTRIA AND SPAIN (LEP.: ELACHISTIDAE)

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THE COLLITELLA-COMPLEX forms part of the Elachista argentella-group (Traugott-Olsen and Nielson, 1977) and is characterised by: male having a very large serrate cornutus in the aedeagus, along with a swarm of minor spines; female genitalia with either a large spined signum, a small signum or without a signum. Forewing coloration varies from unicolorous whitish-grey to the presence of ocherous fasciate markings. Sexual dimorphism rather distinct; wing pattern in female is generally weaker. The following three new species have recently been diagnosed:

#### Elachista passerini sp. n.

Male (Plate C. Fig. 1): Wingspan 8.2mm. Head shining white, necktuft pale greyish, tegula lighter with dark greyish base, thorax pale greyish. Labial palpus whitish, porrected and sharply pointed. Antenna with shining white scape, flagellum pale whitish/greyish anulate basally, annullation more distinct medially, distally with raised beige scales. Forewing almost uniformly shining white, base of costa dark grey, subcostal area mottled very finely darker greyish, a weak streak of single greyish scales on transversal vein. Cilia plain white. Hindwing beige, cilia on costa greyish, along posterior margin slightly yellowish tinged.

Female not known

Venation male (Fig. 1): R1-R2 twice>R2-R3; R2 arises almost above base of CuA1; M1 and R(4+5) arise coalescent from apex of cell; M1 arises in middle from apex of cell to costa; R3-apex of cell very short and strong < apex of cell - M2; M1+R(4+5), M2 and CuA1 evenly spaced on transversal vein, CuA2 double spaced from CuA1. In hindwing Sc+R1 very short, only quarter of length of wing.

Male genitalia (Fig. 5): Uncus elongate with shallowly convex inner margin, apex sharply pointed. Gnathos slender, apically rounded, gnathos spined. Tegumen short, parallel below uncus, widening anteriorly with dorsal margin narrowly, strongly sclerotized, fusing medially with long extension posteriorly. Valva strong, slightly wider medially, cucullus slightly extended at costal margin, straight terminally to spinose tornal area, sacculus undulate to base. Vinculum strong, boat-shaped, in saccal area sharply rounded. Fig. 6 shows details of juxta lobes, digitate process, anellus, aedeagus and saccal area of vinculum. Medial margins of juxta lobes close, turning in right angle to setose, folded apical margin. Digitate process tongue-shaped, uniformly covered with fine setae. Anellus almost circular, with margin narrowly sclerotized. Aedeagus straight tapering, widest at rounded base, apex irregularly ending, cornutus very distinct with long, plain, curved, apical portion, basally serrate and with minute thorns; vesica strongly sclerotized with small thorns. Saccal area of vinculum sharply rounded.

Biology not known.

Distribution: South France, Italy, Spain.

Holotype: &, Italia, Valle d'Aosta, Parco Naturale, Monte Avic, leg G. Baldizzone; prati sopra Covarey 1450-1600m ca. (lux). 17.vii.1993; gen. prep. C 23.1.95/ETO (Figs. 5 & 6); wing prep. A 25.1.95/ETO; Elachista passerini sp. n. det. E. Traugott-Olsen. – in coll. E. Traugott-Olsen,.

Paratypes: 8 & d. 1). d, Italia, Valle d'Aosta, Parco Naturale Monte Avic. leg. G. Baldizzone; Strada da Covarey a Chevrére. 1450-1600m, 14.vii.1993; gen. prep. D 23.1.95/ETO; wing prep. A.25.1.95/ETO 2) &. RHNH/EvN no. 87147, France (Alp.H.P.) Larche. 32T LQ2924 1700m, 29 juli 1987, leg. E.J. van Nieukerken & S. Richter; meadows on south slopes netted at dusk. EvN no. 87147; gen. prep. T 5.6.92/ETO; wing prep. B 30.1.95/ETO. 3) &, RMNH/EvN no. 87139, France (Htes Alpes). 1km north-west Ceillac, ± 10km south Chateau-Queyras, 32T LQ2449, 1800m, 24.Jul.1987, E.J. van Nieukerken & S. Richter leg.; alpine meadow on south slope, netted at dusk, EvN no. 87139; gen. prep. X 5.6.92/ETO; wing prep. C 30.1.95/ETO. 4) ♂, Trentino V. Sarca. Pietramurata, m. 250, 30.iv.81, E. Jäckh; gen. prep. 1996/Jäckh; wing prep. A 22.2.95/ETO. 5) &, France, Alpes de Haut. Prov. Valevoire, Mt. Jewere, leg. 14.vi.1988, G.R. Langohr; U. Parenti Prep. Gen. N. 11265, male; wing prep. D 25.1.95/ETO. 6) and 7) & &, Val Maira (CN) V.ne Linerzio 1600m ca. 29.v.1995, leg G. Baldizzone; gen. preps. E.7.11.95/ETO and G.7.11.95/ETO. 8) &, Spain, Gerona, Montseny de Raball 800m, 13.vii.1988, leg M. Fibiger.

All the paratypes are labelled *Elachista passerini* sp. n. det. E. Traugott-Olsen. Paratypes 1), 6) and 7) in coll. G. Baldizzone, 4) and 5) in coll. E. Traugott-Olsen, 2) and 3) in Rijksmuseum Naturlijke Historie, Leiden, Holland. 8) in coll. Zool. Mus. Copenhagen.

Note: The species differs markedly from other members of this group in wing pattern, venation and in genitalia. It is named after Prof. Dr Pietro Passerin d'Entréves, Torino, well-known for his studies on Scythrididae.

Elachista agelensis sp. n.

Male (Plate C. Fig. 2): Head pale beige, necktuft darker as also tegula and thorax. Labial palpus porrected, descending, third segment about half the length of second, which varies from pale to dark dirty white. Antenna with pecten slightly darker than head, flagellum pale basally, darker and ciliate distally. Forewing with white ground coloration with beige areas containing dark-tipped scales, costa basally almost black, beige areas located medially as an indistinct fascia and at apex of costa as a triangular spot reaching to tornal area, distal to this spot a white subterminal area before a subterminal cilia line of white scales finely blackish-tipped; main cilia line very distinct, cilia dirty white strongly blackish-tipped, cilia outside cilia line white, apically grey.

Venation male (Fig. 2): R1-R2 twice>R2-R3; R3 arises very close to apex of cell together with M1+R(4+5); R2 arises slightly before base of base of CuA1; M1 arises in middle of stem from apex of cell to apex of R(4+5); apex of cell, M2 and CuA1 arise evenly spaced, CuA2 double spaced on transversal vein; medially on M2-CuA1 arises distal part of medial vein. Hindwing with Sc+R1 medially long; transversal vein slightly bent at base of CuA1 and M2-CuA1=CuA1-CuA2.

Male genitalia (Fig. 7): Uncus lobes triangular, outer margin straight, medial margin curved, apically sharp, small setae along distal margins. Gnathos elongate oval, spinose. Tegumen with parallel margins, edge of dorsal anterior margin narrowly but strongly sclerotized, sclerotization confluent to a point medially. Valva with moderately long, rounded cucullus, costa widened medially, few setae along costa; termen setose, rounded tornal area lined with short, strong, straight spines. Vinculum boat-shaped, rounded in saccal area. Fig. 8 show details of juxta lobes, digitate process, anellus and aedeagus. Juxta lobe with rounded medial margin, smoothly rounding into concave apical margin, posteriorly a few setae; medial margins not overlapping. Digitate process short, but with broad distal portion, setose in apical and basal parts. Anellus a fine sclerotized circular ring, open posteriorly. Aedeagus short, cigar-shaped, with very distinct cornutus. sharply pointed anteriorly with apically pointing thorn, basally broadened with numerous minute thorns loosely surrounding the main thorn. The cornutus shows a tendency to separate between the strongly sclerotized part and the mass of minor spines.

Female not known.

Biology not known.

Distribution: South France and Italy.

Holotype: ♂, South France, Alp. Mar. Mt. Agel 3000ft 31.v.1911, leg. Lord Walsingham; gen. slide BM 25332/ETO; wing slide BM 25333/ETO; Elachista agelensis sp. n. det. E. Traugott-Olsen. – In the Natural History Museum, London, UK.

Paratypes: 2 & &. 1) &, Italy, Valle D'Aosta, Parco Naturale, Monte Avic leg. G. Baldizzone; prati sopra Covarey 1500m ca (lux) 19.vii.1993; gen. slide H 23.1.95/ETO; wing slide A 24.1.95/ETO. 2) &, Italia, Liguria, Conna, Mt. Bandino 9.4.89 leg. G.R. Langohr; gen. prep. U. Parenti no. 11263, &.

Other material examined: 1 &, RMNH/EvN no. 87159, France (Alpes Mar.) St. Dalmas-de-Valdeblore, 32TLP 5681 1300m 07 Aug.1987, leg. E.J.v. Nieukerken & S. Richter; meadows and forest edge, netted at dusk, EvN 87159; gen. prep. Y 5.6.92/ETO; wing prep. A. 26.3.95/ETO. 1 &, EMNH/EvN no. 88114, Italia (Imp.Sav.), Rollo, 2km south-west Marina d'Andora. 32TMP 2965, 300m, 10 Apr.1988. E.J.v. Nieukerken; netted at dusk in open maquis with Pinus. E.v. Nieukerken no. 88114. gen. prep. A 9.6.92/ETO; wing prep. D 30.1.95/ETO. Both specimens are in poor condition and are in Rijks Museum Naturlijke Histoire, Leiden, Holland.

All paratypes are labelled *Elachista agelensis* sp. n. det. E. Traugott-Olsen. Paratype 1) in coll. G. Baldizzone, 2) in coll. E. Traugott-Olsen.

Note: The species differs from *Elachista collitella* Duponchel (its closest (?) relative) in the more contrasted coloration; R2 arises more distally, almost above base of CuA1, whereas in *E. collitella* Dup. R2 arises above base of CuA2; R(4+5)+M1 arises from apex of cell, slightly distanced from base of R3; in *E. collitella* Dup., R3, R(4+5)+M1 arise at apex of cell; in genitalia of *E. agelensis* is apex of uncus-lobes shaper triangular, vinculum less rounded in saccal area; the medial margin of juxta lobe smoothly curving into the less setose apical margin than by *E. collitella* Dup. The species is named after Mont Agel in southern France, the locality of the holotype collected by Lord Walsingham in 1911.

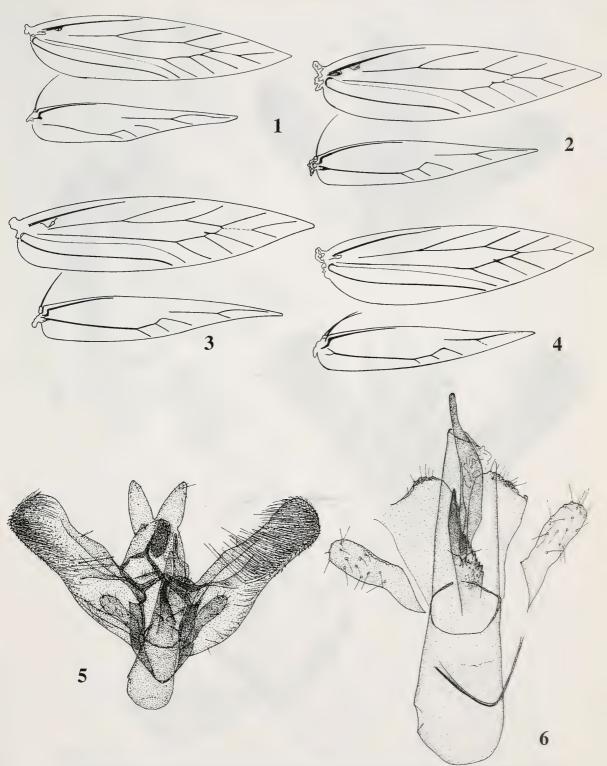
#### Elachista baldizzonei sp. n.

Male (Plate C. Fig. 3): Wingspan 8.3mm. Head, necktuft, tegula and thorax whitish, very slightly off-white. Labial palpus porrect, white. Antenna with white pecten, flagellum weakly annulate pale beige, most distinct in basal part. Forewing with lemon-yellow suffusion along the fold in basal half, medially a whiter fascia followed at one-fifth of costa by a triangular lemon-yellow patch; in the yellowish area above the fold 3 - 4 distinct blackish-tipped scales and a few more in the fascia, at apex of costa and at tornus groups of tiny blackish-tipped scales; cilia line consists of same kind of small blackish-tipped scales, weak subterminal cilia line at costa and scales outside cilia line darker tipped. Hindwings dark greyish, costal cilia darker. A special trait is that the fore tarsi have almost black bases and are almost white distally in both sexes.

Female (Plate C, Fig. 4): Wingspan 8.3mm. Coloration almost white, very much paler than male. Head, necktuft, tegula and thorax whitish. Labial palpus short, porrected, white. Antenna with white pecten (flagellum not present). Forewing whitish, a lemon-yellow dash along the fold basally with three blackish spots of blackish-tipped scales, medially a lemon-yellowish fascia with two black spots of blackish-tipped scales below fold and two close to costa, apically a lemon-yellowish spot with three dark spots of blackish-tipped scales, at apex of costa a small swarm of tiny blackish-tipped scales and a larger spot of similarly coloured scales almost reaching to the cilia line. Cilia line consists of a multitude of small blackish-tipped scales, cilia whitish, apically darker, especially in tornal parts.

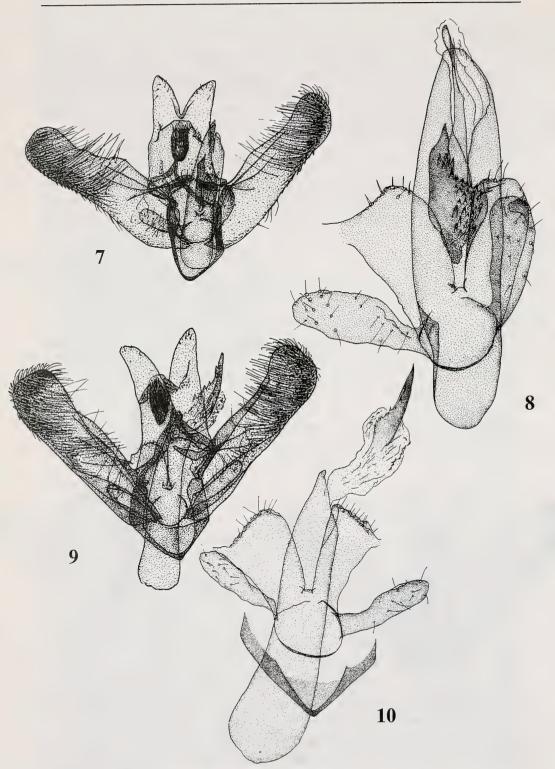
Venation (Fig. 3, male; Fig. 4, female): Identical in both sexes. R1-R2>R2-R3; R3 arises very close to apex of cell; M1 = R(4+5) arises at apex of cell; M3 arises medially from apex of cell to costa; Apex M2 straight = curved M2-CuA1 with the ending of medial vein medially; CuA1-CuA2 twice the length of the above.

Male genitalia (Fig. 9): Uncus lobes with medial margin shallowly convex and lateral margin straight. Gnathos large, tapering apically, spinose.



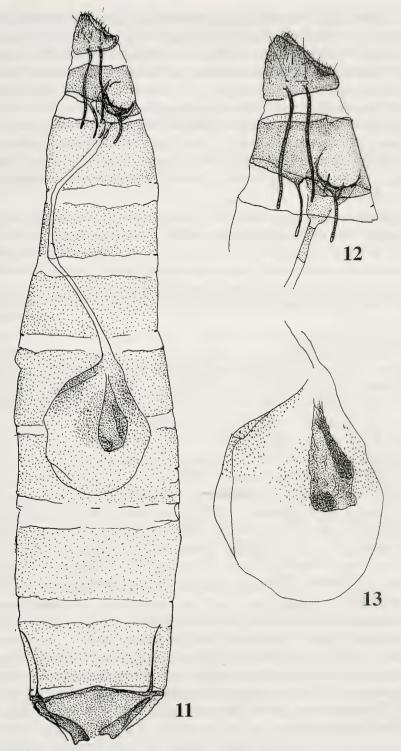
**Figs. 1-4 – Venation.** Fig. 1.  $\delta$ , *E. passerini* sp. n.; Fig. 2.  $\delta$ , *E. agelensis* sp. n.; Fig. 3.  $\delta$ , *E. baldizzonei* sp. n.; Fig. 4.  $\mathcal{Q}$ , *E. baldizzonei* sp. n.

**Figs. 5-6 – Genitalia.** Fig. 5. ♂, *E. passerini* sp. n.; Fig. 6. ♂, *E. passerini* – detail of juxta, digitate process, anellus, aedeagus and saccal area of vinculum.



Figs. 7-10 – Male genitalia with details of juxta, digitate process, anellus, aedeagus, saccal area of vinculum.

Fig. 7. E. agelensis sp. n.; Fig. 8. details; Fig. 9. E. baldizzonei sp. n.; Fig. 10. details.



Figs. 11-13. Female genitalia of  $E.\ baldizzonei$  sp. n.with details of posterior part of abdomen and corpus bursae.

Fig. 11. abdomen with genitalia in situ; Fig. 12. posterior part of abdomen;

Fig. 13. corpus bursae.

Tegumen with more or less parallel, anterior dorsal margin very strongly and broad sclerotized, confluent sharply behind gnathos. Valva slender, cucullus slightly wider, rounded at termen and in tornal area into the straight sacculus. Vinculum very broad, triangular and almost right-angled at saccus. Fig. 10 shows juxta lobes, digitate process, anellus, aedeagus, saccal area of vinculum. Medial margin of juxta lobes almost straight, the corner to apical setose margin 75°. Digitate process distally finely setose, round, parallel in setose apical half before narrowing to basal part. Anellus finely sclerotized, almost circular. Aedeagus tapering from rounded base to pointed apex, containing a longish basally serrate cornutus. Saccal area of vinculum as above-mentioned.

Female genitalia (Fig. 11): Enlarged posterior part of abdomen Fig. 12, corpus bursae Fig. 13. Papillae anales setose at triangular margin, with two long setae laterally. Apophyses posteriores twice the length of anteroires. Antrum a volumenous sac with irregular rounded ventral margin sclerotized, colliculum weak, ductus bursae membranous without spines, corpus bursae with three patches of spines and an indefinite formation.

Biology unknown.

Distribution: Italy, Austria

Holotype: &. Italy, Valle d'Aosta, Parco Naturale, Monte Aviv leg. G. Baldizzone; Strada da Coverey a Chevrére 1500m ca, 12.vii.1993; gen. prep. K.23.1.95/ETO; wing prep. F.25.1.95/ETO; *Elachista baldizzonei* sp. n. det. E. Traugott-Olsen - in coll. Baldizzone.

Paratypes: 3 ♂ ♂ and 1 ♀. 1) ♂, Valle d'Aosta, Parco Naturale, Monte Avic, leg. G. Baldizzone; Serva Desot prat. 1600, ca, 29.vi.1995; gen. prep. A.17.11.96/ETO; wing prep. A.6.1.96/ETO; 2) ♂. Valle d'Aosta, Parco Naturale, Parco Naturale, Monte Avic leg. G. Baldizzone; Strada de tra Leser Desot e Leser Demon, 1700-1900m ca., 15.vii.1993; gen. prep. A.13.6.96/ETO. 3) ♂, Austria inf. Matzen Wald 3.7.76 leg. M. & W. Glaser; gen. prep. A.24.4.88/ETO; wing prep. 27.3.95/ETO. 4) ♀, Valle d'Aosta, Parco Naturale, Monte Avic. leg. G. Baldizzone; Strada de Chevrey a Chevrére, 1600m ca., 14.vii.1993; gen. prep. B.13.6.95/ETO; wing prep. G.13.7.95/ETO.

All paratypes are labelled *Elachista baldizzonei* sp. n. and 1) and 2) in coll. Baldizzone and 3) and 4) in coll. E. Traugott-Olsen.

Note: The species differs from all other species by the sharply angled vinculum in the saccal area, in the suffused coloration of the wings and that ductus bursae not is spinose, but corpus bursae with small spines in three patches. The species is named after Dr Giorgio Baldizzone, Asti, the discoverer of the species.

#### Acknowledgements

I am grateful to Dr Giorgio Baldizzone, Asti and Prof. Dr P. Passerin d'Entreves, Torino, for allowing me to deal with the identification of the

three species in this paper. A specimen of *E. passerini* sp. n. and *E. agelensis* sp. n. collected by Hr. G.R. Langohr, Holland had been dissected by Prof. U. Parenti, Torino. Michael Fibiger caught the single specimen of *E. passerini* sp. n. from Spain and I thank him for being able to include this in the present publication.

Other material was kindly made available by Dr Erik v. Nieukerken, Leiden, Holland. Lastly I also thank Dr John D. Bradley, Somerset, England for reading the draft of this paper.

I am grateful for the support of the Velux Foundation who paid for the production of the colour plate (Plate C).

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### Unusual emergence date for *Cydia pallifrontana* (Lienig & Zeller) (Lep.: Tortricidae)

In July 1995 I visited a locality near Biddestone, Wiltshire, where *Cydia pallifrontana* has long been established. Amongst the long trailing stems of *Astragalus* I found evidence of larval activity in the seed-pods and collected a small sample. The larvae were placed in an airy container with a supply of rotten wood as a site for pupation.

The pods are very inclined to go mouldy in a confined space so daily attention is necessary until such time as feeding is adjudged to have been completed. After that the normal procedure is to place the breeding container in suitable storage and leave undisturbed AND unobserved until the following year. So that it was a very fortunate piece of luck on 30 August whilst attending to other livestock my line of vision happened to fall on the container holding *C. pallifrontana* and I was very surprised to see two adults. To the best of my knowledge remaining larvae are following the usual course of development.

The summer of 1995 has by now been associated with several examples of unusual patterns of emergence, involving many species of lepidoptera, and I suppose that one is justified in considering this a further example. My data concerns captive stock, and though it may be unique and not repeated in the wild the seeds of doubt are sown and the possible occurrence, in the wild, of a second generation or partial generation in late summer is perhaps worth bearing in mind. I know insufficient of the biology of *Astragalus* to know if it would be possible for adults emerging in late summer to find suitable conditions for the future development of any progeny, but considering the specialised circumstances in which the larvae develop, as we currently understand it, I would think there has to be some doubt.

Recently I communicated with Mr Ted Hancock in Cumbria outlining the above details. He informed me that within the literature to which he had

access he was unable to find any reference which would suggest anything other than a univoltine life history.

Finally I would like to thank Mr Hancock for searching through literature and generously giving his time and advice in response to requests for information and comment.— M.H. SMITH, 42 Bellefield Crescent, Trowbridge Wiltshire BA14 8SR.

#### Euproctis similis (Fuess.) (Lep.: Lymantriidae) double-brooded

This common species is recorded, in all the standard reference books I have been able to consult, as single-brooded in the British Isles. Here, at Grangeover-Sands, Cumbria, the species is common and occurs from early July until, perhaps, the end of August. Until this year the latest date on which I have seen the species was 6.ix.1956, on Holker Moss (SD3381). Last year, 1995, the first date for the species in my trap was rather late on 24 July. On 14.x.1995 I found a male specimen in good condition resting on my house and within some ten metres of the m.v. trap. The next day this (presumed) specimen was inside the near-by utility room entangled in a spider's web and dead. On 16.x., again only a few yards from the trap and resting on the outside of a garden shed, was a fine fresh male. It seems to me quite certain that these specimens must have been second-brood examples. Looking through the records kept by the late Dr R.C. Lowther of Grange-over-Sands I find he records three specimens taken at his front door electric light on 7.x.1947 - but as far as I know he did not publish details of these also second brood examples.

Perhaps it is worth recording that second brood examples of *Aplocera plagiata* (L.) and *Herminia tarsipennalis* (Trietschke) were also noted in 1995. My first date for *A. plagiata* was 13.vi.1995 and (presumed) second generation specimens taken on 15.viii. and 5.ix.. *H. tarsipennalis* was common from mid-June to the end of July. I took a fresh specimen in my trap on 10 October. I note that in Heath and Emmet (1983, *The moths and butterflies of Great Britain and Ireland* 10: 396), it is stated ". . . in this hot summer of 1947 single wild specimens were caught on 27 August and later." I think the summer of 1995 could be considered a "hot" one!— NEVILLE L. BIRKETT, Beardwood, Carter Road, Grange-over-Sands, Cumbria LA11 7AG.

# A possible third brood specimen of the Holly Blue *Celastrina argiolis* (L.) (Lep.: Lycaenidae) in Cambridge

After having been absent, or perhaps just not seen, in my Cambridge garden during 1994, it was a pleasant surprise to see this butterfly return in 1995 with several dozen of the second brood being seen in July/August when it was also seen in Cambridge marketplace. However, the most surprising sighting was of a female in the grounds of Pembroke College on 13 October and I feel that the extremely hot weather we had had must have induced this to be a third generation specimen.— BRIAN O.C. GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

# SOME NOTABLE ADDITIONS TO THE MACROLEPIDOPTERA OF JERSEY

#### ROBERT BURROW

Lesmin, Green Road, St. Clement, Jersey, Channel Islands JE2 6QA.

JERSEY LIES about 200km from mainland Britain but only 23km from the coast of France. The island boasts some of the most beautiful and diverse habitats, from wild, exposed heaths to lush, undisturbed valleys; an entomologist's dream. In political terms the Channel Islands form part of the British Isles, but biogeographically they do not. Nevertheless, despite a minor continental influence on its native flora and fauna the following records are a valuable addition to the British list.

The continuously warm summer of 1995 produced some new and exciting additions to the Jersey list. Here follows a brief account of the specimens illustrated and other past notable discoveries.

#### Nola chlamytulalis (Hb.) (Nolidae) Plate D, Figure 1.

While light trapping at La Haule, Jersey on 16.viii.1963 R. Long took a small Nolid moth resembling a Kent Black Arches *Meganola albula*. It was identified by D.J. Fletcher as *Celama chlamytulalis* (Hübner) which is reported to be a native of southern Europe and Asia Minor. This is the first British record of the moth, and I know of no other coloured illustration of this species in a British Journal.

### Acontia lucida (Hufn.) Pale Shoulder (Noctuidae) Plate D, Figure 2.

Although over a dozen specimens of this moth were taken in the British Isles during the last century, only eight bear reasonable data: four near Dover, Kent in June 1825; one, Brighton, Sussex on 25.viii.1859; one, Dover, 1872; and two, again from Dover in 1876. R. Eden made the first record this century at West Bexington, Dorset as did J. Owen at Dymchurch, Kent, both specimens taken on 5.viii.94. The moth illustrated represents the first this century for the Channel Isles and was taken at m.v. light at Les Quennevais, St. Brelade, Jersey on 28.vii.95.

### Stegania cararia Hb. (Geometridae) Plate D, Figure 3.

A moth taken at Howard Davis Farm, Trinity, Jersey between 1-3.viii.81 remained unidentified until 1986 when Adrian Riley of the Rothamsted Insect Survey identified it as *S. cararia*. This is a remarkable first record of a non-British species whose range includes south-east Europe and Asia. Full details appeared in *Entomologist's Record* **99**: 65-66.

# Cryphia algae (Fabr.) The Tree-lichen Beauty (Noctuidae) Plate D, Figure 4.

The first confirmed record of this species within the British Isles was of two specimens taken in Manchester in July 1859 (Edleston, 1860). However, Ellis (1890) stated the moths had been taken at Disley, Cheshire and were in the collection of Joseph Sidebotham having been supplied to him by

Edleston. It took a hundred years before this attractive moth was again to be recorded, when on 24.viii.1990 T.N.D. Peet took one in Guernsey. Peet took a further specimen the following year on 1.ix.1991. M. Schaffer took a specimen on Herm on 2.ix.1991. The illustration shows a specimen taken at light at Gorey, Jersey on 28.vii.1995 which represents the tenth British record this century. Other known records are:

21.viii.1991 Southsea, Hampshire, J. Langmaid.

01.ix.1991 Walberton, West Sussex, J.T. Radford.

08.viii.1992 Walberton, West Sussex, J.T. Radford.

27.viii.1992 Freshwater, Isle of Wight, S.A. Knill-Jones.

19.vii.1995 Dungeness, Kent, S. Clancy.

26.vii.1995 Southsea, Hampshire, J. Langmaid.

01.viii.1995 Walberton, West Sussex, J.T. Radford.

01.viii.1995 Dungeness, Kent, K. Redshaw.

02.viii.1995 Chilling, Hampshire, P. Potts.

10.viii.1995 Weymouth, Dorset, P.Sterling.

# *Thaumetopoea processionea* (L.) Oak Processionary (Thaumetopoeidae) Plate D, Figure 5.

The first British records of this moth are of two specimens taken on the same night, 19.viii.1983 – one in Guernsey and the other at Mawnan, Cornwall. Jersey's first record followed a year later on 21.viii.1984. A further three specimens were taken between 10-12.ix.1985. I took my first on 22.vii.1989 at Gorey, Jersey, and since then the moth has appeared in increasing annual numbers, the most being ten on 2.ix.1993. The moth is well established and has been recorded from five localities. 1995 proved to be an exceptional year on mainland Britain with no less than ten records coming from seven counties. The moth illustrated represents a specimen taken at Gorey on 1.ix.1993.

#### Evergestis limbata (L.) (Pyralidae) Plate D, Figure 6.

This dainty and attractively-marked moth was first recorded on Guernsey on 18.vii.1990 when T.N.D. Peet took a single specimen at m.v. light. The second record was made three years later when S.R. Colenutt took a specimen at light on 14.vii.1993 at Chale Green, Isle of Wight. Colenutt took a further two specimens at the same location the following year on 20.vii and 23.vii. I took the fifth British example of this moth at light on 19.vii.1995 at Gorey, Jersey. Since then a further two specimens have been taken; Isle of Wight on 21.vii.1995 (S.R. Colenutt) and Portslade, East Sussex on 11.ix.1995 (R. Cronin).

# *Polyphaenis sericata* (Esp.) Guernsey Underwing (Noctuidae) Plate D, Figure 7.

This species was first cited as British from Guernsey in 1872, when Newman reported taking the moth. However the first authenticated record was published in 1890, when Luff reported finding the larvae of this species

feeding on the lower leaves of Honeysuckle. Almost a century later the moth was rediscovered when R. Austin took a single specimen at m.v. light at Petit Bôt, Guernsey in 1986. T.N.D. Peet took a further specimen in his garden at Le Chene in 1989. In 1990, D. Agassiz and J. Langmaid recorded several to light at Moulin Huet and Saints. The moth is considered to be a fairly common resident in Guernsey, especially in the southern coastal valleys, which were overlooked until recently (R. Austin, *pers. comm.*). I took the first Jersey specimen of this moth at Gorey on the 23.vi.1989, and since then it has turned up almost annually at this one location. I discovered a new site in 1993, about 7km from Gorey and it is perhaps worth noting that both sites are close to the sea. The moth illustrated was taken at Gorey on 31.vii.95.

#### Trachea atriplicis (L.) The Orache (Noctuidae) Plate D, Figure 8.

This beautiful moth became extinct in Britain in 1915. It was originally to be found in the marginal fenlands of Huntingdonshire and Cambridgeshire, and was locally common in Norfolk, Essex, Suffolk and Hertfordshire. It next appeared in 1984, when a single specimen was taken in Guernsey, and on 2.viii.1987 a specimen was recorded from the Rothamsted Insect Survey trap at Trinity, Jersey. I recorded my first Orache in 1993, taking moths between July and August from three localities. By 1995 local sites increased to five with as many as eight specimens being taken in a night. It is worth noting a gravid female taken at light, very late in the year on 12.x.1995, suggesting that the moth may be double-brooded in the south. The moth illustrated is a specimen taken at Gorey on 19.vii.1995.

Recent mainland records:

1986 (four): Essex (2), Kent and Suffolk.

1989 (one): Surrey. 1991 (one): Norfolk. 1994 (one): Kent.

1995 (three): Dorset, Cheshire and Hertfordshire.

# Gluphisia crenata (Esper) Dusky Marbled Brown (Notodontidae) Plate D, Figure 11.

There are probably only three authenticated records of this moth having been taken in the British Isles, and all prior to 1855. The first was a female taken at Ongar Park Wood, Essex in June 1839. Another female was taken at the same locality in June 1841. The last was of a specimen bred from a larva beaten from poplar by the Rev. Joseph Greene at Halton, Buckinghamshire in August 1853 (Barrett, 1896). There is also an unconfirmed record of three specimens taken on the Isle of Man in 1870. The specimen illustrated represents the fourth authenticated record for the British list and was taken at light at Gorey, Jersey on 28.vii.1995.

#### Catocala elocata (Esp.) (Noctuidae) Plate D, Figure 12.

In 1989 R. Long's attention was drawn to the G.B. Coney collection of Lepidoptera held in the City of Bristol Museum and Art Gallery, and in

particular the presence of a specimen of *Catocala elocata* Esper, amongst a collection taken in Jersey. He was able to examine and photograph it, and a brief note was published in the *Annual Bulletin of the Société Jersiaise* (Le Quesne, 1990). The moth was taken on 20.x.1903 at St. Saviour, Jersey. Coney probably misnamed the moth initially as his article "Lepidoptera in Jersey, 1903" (Coney, 1903) does not include *C. elocata*, but for the very similar *C. nupta* he records "22 August to 20 October".

#### Acknowledgements

I would like to thank R. Austin, A, Davis, B. Goater and T. Peet for furnishing me with some of the numerous records necessary to produce this short article. Special thanks are due to B. Skinner for supplying a detailed list of all British data; R. Long for the in-depth account of his records and David Wilson for the excellent colour plate.

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# DRYOBOTA LABECULA (ESPER) THE OAK RUSTIC (LEP.: NOCTUIDAE):A NEW BREEDING SPECIES TO THE BRITISH LIST FROM THE CHANNEL ISLANDS.

#### ROBERT BURROW

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DOUBTLESS IT IS every British lepidopterist's ambition to discover a new resident species. My dream was realised when I caught, at light, five gravid females of an unknown noctuid at Gorey, Jersey on 28.x.1991. Two were kept for further examination and the remainder released. Subsequently the moths were identified by Adrian Riley as *Dryobota labecula* (Esper); a species hitherto unrecorded in either the Channel Islands or mainland Britain.

#### Life history

It is hoped to produce a detailed account of the life history at some point in the future, but in order to alert recorders to the species' presence, at least in the Channel Islands, it was considered desirable to publish the discovery immediately. In the meantime the following brief account is gleaned from Foster and Wohlfart. The adults fly between October and December, during which time ova are laid on holm oak *Quercus ilex*. After overwintering they hatch during April and May. The larvae pupate in September.

#### Status in the Channel Islands

The few collectors and recorders in Jersey rarely, if ever, use light-traps during the flight period of this species. This suggests the moth may have long been present in the Island but merely overlooked. Moreover, as holm oak is one of the more common trees here it was possible *D. labecula* was also widespread.

During the late autumn and early winter of 1992, unfavourable weather conditions precluded light-trapping. However the mild weather of 1993 led to the discovery of four new sites at widely separated localities across the Island. In 1994 a further two new sites were found, confirming the species to be widespread and not uncommon. To date I have recorded a total of seventeen individuals from six localities. A further two individuals were caught in the Rothamsted Insect Survey light-trap at Trinity on 25. and 29.x.1995. The moth has now been recorded in Guernsey, with singles to light at Pleinmont on 13 and 28 October. A specimen was taken at Les Sages on 21 October with a further four at the same location the following day.

It will be noted from the photograph (Plate D, Figs. 9 & 10) that there are two forms of the moth based on the colour of the reniform stigma. In the specimens I have examined there appears to be no further significant variation.

In the systematic list, this species should be placed between 2243: *Xylocampa areola* Esp. and 2244: *Meganephria bimaculosa* (L.). It is suggested that the number 2243a should apply.

#### Acknowledgements

Thanks are extended to Adrian Riley, IACR Rothamsted, for identifying the original specimens and for his assistance in drafting this article.

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#### The Large White butterfly Pieris brassicae (L.) (Lep.: Pieridae) in Shetland

The Large White was obviously scarce or rare in Shetland at the end of the last century and the beginning of this. Beirne (1945, *Ent. Rec.* 57: 37-40) could not trace any original records nor find any specimens although he noted that some authors had included Shetland in the species' distribution.

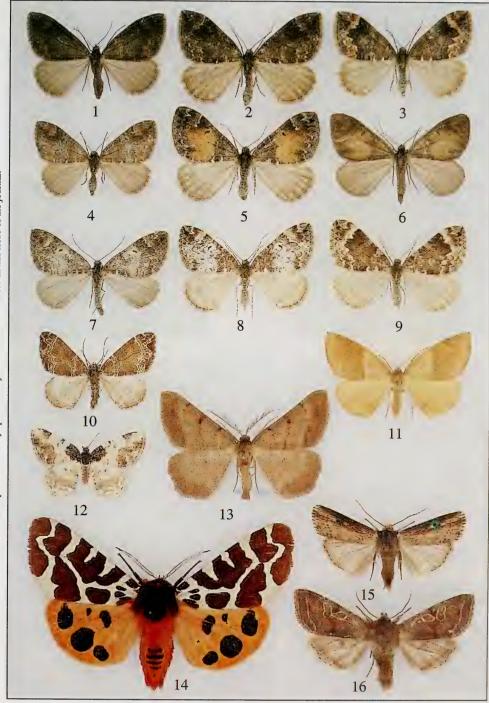
Popular belief is that the species was introduced to Shetland amongst NAAFI cabbage during the last war (Berry and Johnston, 1980. *The Natural History of Shetland*. Collins). The truth of this is hard to establish. Colonisation possibly occurred naturally at about the same time, and the connection with the influx of strangers during the war made later. Certainly, by the early 1960s the species was well-established enough to be considered a pest on many parts of Mainland (Kettlewell and Cadbury, 1963. *Ent. Rec.* 75: 149-160).

Nowadays the Large White breeds almost throughout the islands. There are breeding records from all inhabited islands except Fetlar (strangely as Fetlar is renowned for its fertility; the name even translates as "Fat Land"). There are only old, undated records of larvae from Fair Isle (Fair Isle Bird Observatory (FIBO)). Foodplants recorded so far in Shetland include only the expected *Brassica* and a common garden plant *Hesperis*. Records clearly establish that the Large White is univoltine in Shetland, as it is in northern Scotland (Leverton, 1994, *Ent. Rec.* 106: 190-191 and M. Young, *pers. comm.*). Locally bred adults fly in Shetland between mid-June and early-August. The species is commonest in South Mainland north to Lerwick where it is possible to see up to 100 in a day in fine weather. Elsewhere, although locally common around certain kaleyards (the local name for what one might call a cabbage patch), one might normally only see single figures in a good day.

The presence of migrants in Shetland can be difficult to establish. Records from areas without a breeding population, such as Fair Isle, Fetlar and Noss, can help. These three areas are systematically covered on an almost daily basis by wardens and visitors. Some records could refer to local wanderers from the Shetland population, although this is unlikely on Fair Isle.

Records from Fair Isle are by no means annual, with records in just eight of the 18 years since recording began there in 1978, with eight in 1988 the most in any one year (FIBO). Although there was an early record on 14.v.1990, most records are in the period mid-June to mid-July when they are commonest on Mainland Shetland. There are only a few records in late July and early August with the latest on 23 August. On Fetlar and Noss a few odd singles have been seen in recent years in June and July. The only series of records, suggesting larger immigrations, involved virtually daily records on Noss from 10-28.vi.1992 and on Fetlar from 4.vi. to 8.vii.1995. These records from the outer islands suggest that any major immigration occurs in June and July, when the migrants would be overlooked amongst locally bred butterflies.

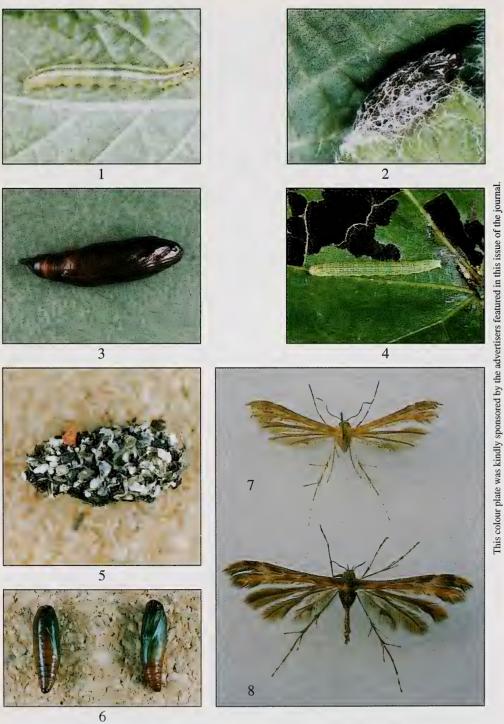
The only migrants which can be certainly recorded from elsewhere in Shetland are those recorded at unusual times of the year – before mid-June and after mid-August. Early spring migrants appear to occur regularly. Since 1990 there have been records of one in 1990 (on Fair Isle as listed above), none in 1991, over 20 in exceptionally fine weather from 19.v.1992, about



Figs. 1 - 8. Aberrations of Chloroclysta truncata (Hufn.) (Geometridae). 1. ab. nigerrimata Fuchs; 2. ab. perfuscata Haw.; 3. ab. nigrobrunneata Heyd.; 4. ab. saturata Steph.; 5. ab. rufescens Strom; 6. ab. mixta Prout; 7. ab. griseofasciata Müll.; 8. ab. russata Hb.

Figs. 9 - 12; 14 - 16. New aberrations of British Lepidoptera.
9. Chloroclysta truncata (Hufn.) ab. rufofasciata ab. nov., 10. Ecliptopera silaceata D. & S. ab. reticulata ab. nov.; 11. Plagodis pulveraria L. ab. effusa ab. nov.; 12. Ligdia adustata D. & S. ab. nebulata ab. nov.; 14. Arctia caja L. ab. rivularis ab. nov.; 15. Axylia putris L. ab. brunnea Goater; 16. Orthosia incerta Hufn. ab. ocularis ab. nov.

Fig. 13. Selidosema brunnearia Vill. ab. atlantica ab. nov. All Figs. approximately life size (West, 1996).

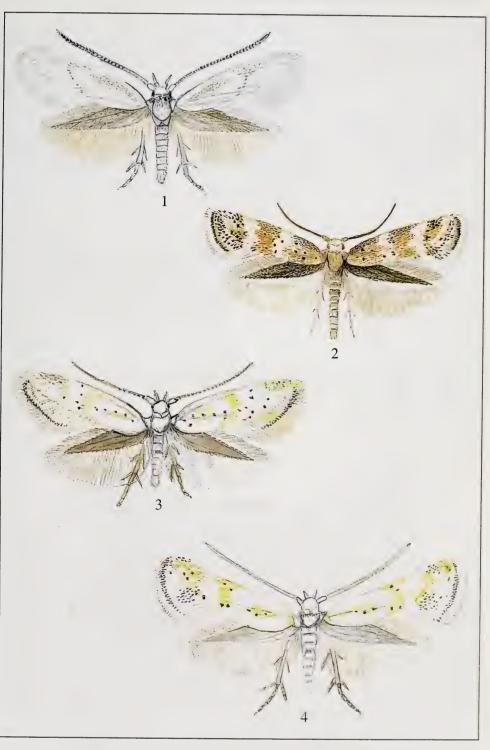


Figs. 1 -3: *Udea fulvalis* (Hb.) Pyralidae (Skinner, 1996) 1. Fully-grown larva x 1.7; 2. cocoon x 1.6; 3. pupa x 3.0

Figs. 4-6: Salebriopsis albicilla (H.-S.) Pyralidae (Skinner, 1996)
4. Fully-grown larva x 2.4; 5. cocoon x 2.7;
6. pupa x 2.0

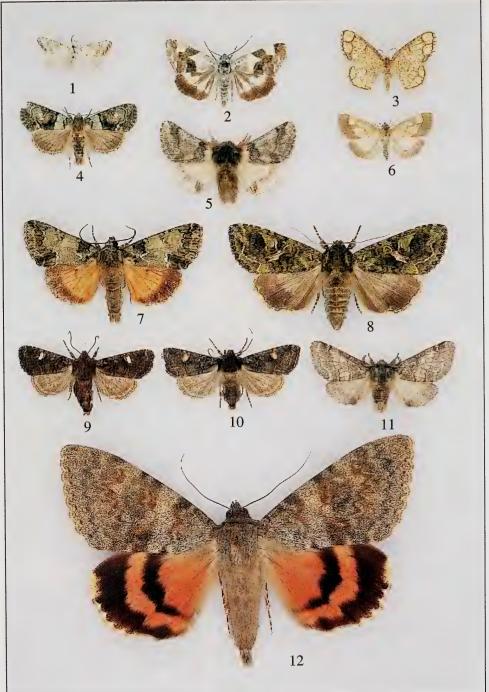
**Fig. 7:** Crombrugghia laetus (Zell.) male Pterophoridae (Hart, 1996) x 2.5

**Fig. 8:** Crombrugghia distans (Zell.) male Pterophoridae (Hart, 1996) x 2.5



Figs. 1 - 4: New species of Elachista Treitschke (Traugott-Olsen, 1996).

**1.** *E. passerini* sp. nov. Holotype male; **2.** *E. agelensis* sp. nov. Holotype male; **3.** *E. baldizzonei* sp. nov. Holotype male; **4.** *E. baldizzonei* sp. nov. Paratype female.



Figs. 1 - 8; 11 - 12: Unusual and rare Lepidoptera from Jersey (Burrow, 1996). See text for data.

1. Nola chlamytulalis (Hb.) (Nolidae); 2. Acontia lucida (Hufn.) (Noctuidae);
3. Stegania cararia (Hb.) (Geometridae); 4. Cryphia algae (Fabr.) (Noctuidae);
5. Thaumetopoea processionea (L.) (Thaumetopoeidae); 6. Evergestis limbata (L.) (Pyralidae);
7. Polyphaenis sericata (Esp.) (Noctuidae); 8. Trachea atriplicis (L.) (Noctuidae);
11. Gluphisia crenata (Esp.) (Notodontidae); 12. Catocala elocata (Esp.) (Noctuidae).

Figs. 9 and 10: Dracheta labecula (Esp.) (Noctuidae) (Burrow, 1996).

Figs. 9 and 10: Dryobota labecula (Esp.) (Noctuidae) (Burrow, 1996).

All figs. approximately life size.

five from 10.v. to 2.vi.1993, about four from 13.v. to 2.vi.1994 and about ten from 30.v. to mid-June 1995. A record from Tresta, Mainland on 9.vi.1992 was in the porch of a house and had obviously been reared indoors. This may also explain a record from Gutcher, Yell at the end of April 1993. Autumn migrants are rarer (witness the absence of any late records on Fair Isle) but there were records at Skaw, Unst on 21.ix.1991, Sumburgh, Mainland on 5.ix.1992 and two at Sumburgh on 4.x.1992, the latter amongst a large influx of Red Admirals *Vanessa atalanta* (L.). In 1995 about 20 were recorded in early September during a period of obvious Lepidoptera immigration.

Immigration is probably necessary to maintain the breeding population in Shetland, as is believed to be the case in Orkney (Lorimer, 1983. *The Lepidoptera of the Orkney Islands*. Classey) and Aberdeenshire (M. Young, *pers. comm.*). Although immigration of Large Whites is hard to establish as discussed, immigration of other butterflies has been good in most years since at least 1990, suggesting that the recent increase in Large Whites may be due to recruitment into the population.

As already mentioned the Large White does breed in Shetland's neighbouring archipelago to the south in Orkney. To the north, in Faroe, it is very rare, with only two records, both in the exceptionally fine weather of spring 1992 (Kaaber, *pers. comm.*).

I would like to thank the following for comments and records: C. Donald, A. Gear, P. Harvey, Dr S. Kaaber, R. Leverton, F. Ratter, N. Riddiford, T. Rogers, D. Suddaby and M. Young.— M.G. Pennington, Shetland Entomological Group, 9 Daisy Park, Baltasound, Unst, Shetland ZE2 9EA.

# The Orache Moth *Trachea atriplicis* (Lep.: Noctuidae): a notable Wirral capture

I was recently asked by Ian Rutherford, the author of *Macro-moths in Cheshire 1961 to 1993*, to confirm the identity of a specimen of the above species taken in mid-July 1995 at Irby by Mr Tom Paxton in his m.v. trap. Skinner (1984, *Colour identification guide for moths of the British Isles*. Viking), states it has not been recorded in this country since 1915. However, Bernard Skinner has recently informed me that since the publication of his book he now has a few records from some south-east counties for the period 1986 to 1994. As far as I am aware this record for the Orache Moth is the most northern one we have for the UK. I am sure Bernard would welcome any other recent records.

Copies of Ian Rutherford's *Macro-moths in Cheshire 61 to 93* published by the Lancashire and Cheshire Entomological Society can be obtained from my address below, priced £8.00.— ALAN CREASER, 68 Bridgenorth Road, Pensby, Wirral L61 8SJ.

# Hazards of butterfly collecting – "I am a tiny man", United Kingdom, 1973

As the creaky Middle East Airlines, Boeing 720 approached Heathrow, London, I felt sure I should like Lionel Higgins. While I had been preparing my book on the butterflies of Lebanon over the past few years, he had patiently endured a torrent of letters. I was wholly without library facilities and had no experience in writing seriously about butterflies, so his help was a *sine-qua-non*. He had invited me to stay with him a few days while I was in London on a business trip. He had even offered to pick me up at Heathrow, with the words, "I am afraid that someone unfamiliar with this country might find the journey from Heathrow to Wokingham rather daunting". But it was his last letter that made me quite certain I would like him, "I shall be waiting for you at the MEA counter. I am a tiny man, and I shall be wearing the very caricature of an English tweed suit. You cannot possibly miss me". With words like that, he just had to be likeable.

We met, and he was. I was somewhat over-awed at being with one of the authors of the best-selling butterfly book ever (*Field Guide to the Butterflies of Britain and Europe*, Collins), but Lionel had a fine line in de-awe-ing people like me. We had a most pleasant weekend together, and I think I learnt more in those 48 hours than I have ever learnt in such a short time. Fortunately, being a physician, Lionel was also interested in my work with family planning in the Middle East.

In 1975 I moved to the UK, and Lionel's comments on daunting journeys were proved right when he said that I must come down for a weekend, post haste. I looked at a map. It seemed simple enough; to find Wokingham, go to Heathrow and turn generally south-west. I had not bargained for British signposting. Between Heathrow and Wokingham there was no information on anything more than two miles further on, and my only map was 1:1,000,000. Lionel was sufficiently experienced with foreigners not to be nonplussed by a late arrival.

He had a huge, extremely well-organised collection of Palaearctic butterflies, which could give immediate answers to most problems. He had collected many himself during visits to places which at the time were most inaccessible, like Kurdistan, obscure parts of Turkey, and Lebanon. His first major scientific revision of the Hesperiid genus *Spialia* Swinhoe dates from 1924, and his monograph on the Nymphalid genus *Melitaea* Fabricius from 1941 is a classic. His 1964 paper on Turkish butterflies remains the only real attempt to give an overview of the Turkish butterfly fauna, though much more collecting has since been done.

While he was proud of his collection and freely gave interested colleagues access to it, Lionel was even more proud of his wonderful library of rare entomological books, which he had amassed since his youth. Nothing gave him more pleasure than showing off the splendid hand-coloured plates in books like Hübner's or Hewitson's. He thought their combined value was more than that of his lovely old home, "Focclesbrook Farm".

During a discussion in early spring, 1978, when he was well into his eighties, he suddenly declared, "Do you mean to say you have never seen the early stages of the Riodinidae? Let's go!". He donned a pair of gumboots, and off we went in his trusty VW Golf, through twenty miles of winding country lanes, to a wood where *Hamearis lucina* L. flew. There was a doctor's sign on the windscreen, for Lionel still did a bit of doctoring. "Helps with parking as well", he remarked.

I last visited Lionel a few days before moving to India in 1984. He was by now 93, and despite attempts at being his old self, the loss of his wife, Nesta, a few years earlier clearly dampened his spirits. His final words to me were, "You know . . . this whole business of electrophoresis . . . you might want to look into that . . . but then, perhaps, India is not the place to start". Lionel's mind was obviously open to the very last.

A few months before his death, in October 1985, at the age of 95, he wrote to me, "I find that my concentration is slipping a bit, but I still manage to get things on paper".

Lionel may have been tiny, but he was a great man.— TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 9PL.

# Coleophora therinella (Tengst.) (Lep.: Coleophoridae) and Monochroa hornigi (Stdgr.) (Lep.: Gelechiidae), new to Wiltshire

On the evening of 29 June 1994 my brother and I operated our m.v. lights in Savernake Forest SU2167 (VC 7). Amongst a fairly modest catch we secured one *Coleophora* sp. and one *Monochroa* sp., both of which defied immediate identification. In due course Dr John Langmaid from Southsea provided invaluable assistance in that direction.

During the following winter my brother prepared a slide of the genitalia from the *Coleophora* sp., and from that slide John Langmaid had no doubts in confirming the identity of the specimen as *Coleophora therinella*.

The *Monochroa* sp. engaged John's interest and he very generously offered to dissect the specimen, and in due course confirmed its identity as *Monochroa hornigi*.

The larval foodplant of *C. therinella* has only fairly recently been discovered. The plant, black bindweed *Fallopia convolvulus* has been known for several years by the scientific name *Bilderdykia convolvulus*. Prior to that it was apparently *Polygonum convolvulus*, now, as a result of fairly recent changes in nomenclature, it is known as *Fallopia convolvulus*. A point of interest is that this recent classification places "black bindweed" adjacent to Japanese Knotweed *F. japonica* and Russian-vine *F. baldschuanica*. An examination of the latter shows several strong physiological similarities to black bindweed *F. convolvulus* and it is becoming a very commonly grown cultivar and it would not be beyond the realms of possibility that

C. therinella could occur on this plant. I have given one extensive plant acursory examination with Coleophora cases in mind and a horrendous exercise it turned out to be.

Finally, I would like to record the thanks of my brother and myself for the help and advice generously given by Dr John Langmaid.— M.H. SMITH, 42 Bellefield Crescent, Trowbridge, Wiltshire BA14 8SR.

# A late and an early Red Admiral *Vanessa atalanta* (L.) (Lep.: Nymphalidae) in Cambridge

The last Red Admiral in my garden here in Cambridge was seen on 28 November 1995. Sitting having coffee in our sunroom at around 11.15 in the morning on 14 January 1996, a warm and sunny day, my wife said, "There's a butterfly on the outside windowsill." There was indeed and it was a very fresh-looking Red Admiral sunning itself, which it did for several minutes before taking off for a tour of the garden and eventually disappearing to explore adjacent gardens. A week or so previously the weather had been extremely cold and the temperature had gone down to -9°C which the butterfly must have survived.— BRIAN O.C. GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

# Long-tailed Blue butterfly $Lampides\ boeticus\ (L.)\ (Lep.:\ Lycaenidae)$ in West Sussex during 1995

The year 1995 has already been widely noted as an exceptional year for immigrant insects. To date, however, I have seen no notification of sightings of the Long-tailed Blue butterfly *L. boeticus*. It therefore seems worth placing on record the occurrence of this noted migrant in Mr Christopher Johnson's garden at Chelwood Gate, near to Haywoods Heath in West Sussex, on 8 October 1995. The insect was captured on film and identified by Mr Johnson.— MAX ELVIDGE, 69 Archel Road, London W14 9QL.

# More comments on the foodplants of *Euproctis chrysorrhoea* L. (Lep.: Lymantriidae)

Further to my communication on the hostplants of this lymantrid (*Ent. Rec.* **107**: 276), I should like to confirm that *Cornus sanguinea* is used both as a foodplant, and as a site for the construction of the winter nest (hibernacula). This plant is cited by Torossian, Torossian & Roques (1988, *Bull. Soc. Hist. Nat., Toulouse*, **124**: 127-174), solely as a larval foodplant. In addition, and perhaps more importantly, concerning my mention of *Laurus* as a hostplant for this species, this shrub is also used as the site for the hibernacula. I located one small web on the former plant, and two large webs on the latter plant, in the Canning Town area of east London on 16 January 1996.

-G. KING, 22 Stoney Meade, Slough SL1 2YL.

# EXOTIC AND RARE MIGRANT BUTTERFLIES RECORDED ON THE ISLE OF WIGHT DURING 1995

<sup>1</sup>S.A. KNILL-JONES AND <sup>2</sup>B.J. ANGELL

<sup>1</sup>Roundstone, 2 School Green Road, Freshwater, Isle of Wight.

<sup>2</sup>Downs View, Locks Green, Porchfield, Isle of Wight.

THE SUMMER OF 1995 was the warmest and driest on the Isle of Wight since 1989. The winds were generally from the north-east and this aided a large migration of the Camberwell Beauty *Nymphalis antiopa* (L.) to the east coast of Great Britain. It was also the warmest October since records began and there was a considerable migration of the Monarch butterfly *Danaus plexippus* (L.) along the south coast with five records for the Isle of Wight.

There were also several reports of sightings of three species of exotic butterfly on the island during this hot summer and these examples were most likely escapes from *Butterfly World* at Wootton. Apparently the nets had become torn which resulted in a number of escapes throughout the year. We have been in touch with the manageress and advised her that these escapes should be avoided. She intends to replace the torn nets when funds become available.

We now give details of six species of butterfly in two parts – genuine migrants and exotic species which were probably escapes.

# Genuine migrants

Swallowtail Papilio machaon gorganus (Fruhstorfer)

An example of this species was seen by Dr D. Biggs at Lukely Stream, Carisbrooke on 4 August. This was a good sighting and the recorder is familiar with this species from abroad.

Camberwell Beauty Nymphalis antiopa (L.)

- 21 August, Bonchurch, near pond (Mrs Saul).
- 26 August, Hunts Road, Ventnor, on Buddleia (Mr & Mrs Ellis).
- 31 August, in a private garden at Quarr Abbey, Ryde (Mrs Hudson).

Monarch Danaus plexippus (L.)

- 8 October, in a private garden on a beautiful day (Miss K. Hack).
- 8 October, Mr D.A. Britton observed this butterfly for one and a half hours on a yellow flowering *Buddleia* at Luccombe.
- 9 October, Tennyson Down, Freshwater at 17.00hrs (Mr Woodread).
- 9 October, coming off the sea chased by a Painted Lady *Cynthia cardui* (L.). Observed by Mrs J. Cheverton at Shanklin.
- 10 October, Tennyson Monument, Tennyson Down (Mr B. Ransom).

# **Exotic species**

Common Leopard Phalantha phalantha (Drury)

This is an Afrotropical species covering regions such as the Malagasy Republic, Seychelles, Cameros, Mascarene Islands and Australia.

An example captured at Spinfish, Freshwater on 9 June (S.A. Knill-Jones), which also happened to be the hottest day of the month. It was exhibited at the annual exhibition of the British Entomological & Natural History Society on 28 October 1995.

- 12 July, Cat Copse, Gurnard. Photographed by Mr J. Caws.
- 12 August, Love Lane, Bembridge (Mr Skinner).
- 28 August, Seaview (Mr Choong).

# Black Swallowtail Papilio demetrius (L.)

This is an Asian butterfly occurring in Japan, China and Korea. It was observed by Mr W. Downer at Rew Street, Gurnard on 9 August.



# Heliconius charitonius (L.)

This butterfly occurs in the rain forests of South America, southern USA and the West Indies.

- 1 June, Firestone Copse. Photographed by Mr N. Sival.
- 24 June, Appley, Ryde (Miss J. Philips).
- 4 August, Cowes (Mr W. Downer).
- 4 August, Gurnard (Mr W. Downer).
- 12 August, Bembridge, on Buddleia. Two observed by Mr Skinner.
- 12 August, Stevensons Road, Cowes (Mr K. Venables).
- 26 August, Park Road, Cowes. Two observed by Mr Harmar.
- 28 August, Seagrove Road, Seaview. Two observed by Mr Choong.

# Acknowledgements

We would like to thank Mrs Knill-Jones for reading and commenting on the manuscript, Mr D. Carter (British Museum (Natural History)), Mr R. Goodden (Worldwide Butterflies) and Mr B. Skinner for their help with identification of some of the species.

# CARYOCOLUM JUNCTELLA (DOUGLAS) (LEP.: GELECHIIDAE) IN WORCESTERSHIRE (VC37) IN 1994

# A.N.B. SIMPSON

"Sycamores", Old Rectory Gardens, Leigh, Worcestershire WR6 5LD.

ON 27 APRIL 1994 I went to the Wyre Forest National Nature Reserve with Dr M.W. Harper. Whilst searching a woodside meadow at about 17.00hrs MWH caught a small moth flying actively in the warm spring evening at waist height. We were surprised to find it was a *Caryocolum* species. Shortly after this I caught another flying past at shoulder level. Both were found to be slightly worn females of what we realised must be *C. junctella* (Douglas) as this is the only one of its genus which hibernates as an imago. This was confirmed later by reference to description in Meyrick ([1928]) and by dissection of genitalia.

I am not aware of any previous record of this species in VC37 although Wood (1908) recorded it from "Tarrington and Woolhope District" (VC36 Herefordshire). Otherwise old records are from northern and western Britain from Cheshire to Inverness apart from two sites in Essex during the last century and one site in Northamptonshire in 1907 (Parsons, 1995). All, however, are from long ago and the only other recent record quoted by Parsons (*op. cit.*) is from VC51 (Flintshire) by H. Michaelis on 16.viii.1992. Also, there do not seem to be any descriptions of its life history from the British Isles.

Accordingly MWH and I returned to the site on 21.v.1994 to try to discover larvae. This is a very herb-rich unimproved meadow surrounded by the oak woodland of the Wyre Forest. We assumed the insect most likely was feeding on a species of Stitchwort or some other species of the Caryophyllaceae, like the others in its genus. The meadow contains some large anthills on which were growing *Stellaria graminea* L. and a few plants of *Cerastium glomeratum* Thuill. We quickly began to find small larvae mining the leaves and spinning together the tips of the shoots of the *Stellaria*. MWH also found a lepidopteran larva mining a leaf of the *Cerastium*, though we found no others and it got mixed up with the *Stellaria* and so was not definitely bred out. The larvae fed up quite quickly and all had pupated in tissue at the bottom of their container by 10 June.

Larvae in final instar were 6mm long, head and prothoracic plate black, first thoracic segment brown with first pair of prothoracic legs blackish brown, and abdomen, anal plate and pinacula apple-green. I had six larvae and they all produced imagines of *junctella* between 6 and 11 July 1994. Another visit to the site in August did not reveal any fresh feeding, so it seems it is univoltine.

The meadow is well managed by seasonal grazing, mostly by cattle, but not from March to July which enables meadow invertebrates to flourish whilst maintaining the flora. This management seems entirely satisfactory as regards *junctella* and other insects present. Historically it seems it was

grazed by two cart horses until about twenty years ago and then for a few years by sheep, and since then only by four cows from late summer through the winter (apart from some deer and rabbits!).

# Acknowledgements

Many thanks to English Nature and especially to warden John Robinson for permission to record microlepidoptera on the NNR and for their excellent management of the site.

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#### Stolen cabinet drawers

Your correspondent's loss (Brian Baker, *Ent. Rec.* **107**: 259-260) was no surprise to me having had a similar experience at what was then the Department of Agriculture and Fisheries for Scotland office at 71 Renfield Street, Glasgow, about 15 years ago. I write to express the opinion that such occurrences are more common than most people realise. Just as the consuming passion to collect birds' eggs lends individuals to contravene the law, so do less scrupulous entomologists stoop to illegal means of acquisition. Who else would have any interest in microlepidoptera?

Such details I have are from memory and the cabinet carcass and remaining drawers which are still in our possession here. No publicity was given to the theft at the time, as it was thought that the culprit was known. However, despite a police investigation, nothing was recovered.

The publicising of details of such losses is one of the ways they can be combated. The entomological fraternity is a relatively small one and it should be possible to recover at least some of the more distinctive property eventually.

Our own loss was from a vintage cabinet containing two stacks of ten drawers behind two glass-panelled doors. The entomological interest of the contents was minor, mostly macroleps, acquired in the course of other work. I do not know the maker; their dimensions are 17" x 15". Replacements were made but, excellent as they are, do not quite match, as the originals have cast brass label holders. The replacements have stampings.

As a diver and sailing man, I have had to contend with thefts of demand valves, cylinders and outboard engines. These all have serial numbers, but much entomological material is just as traceable through data labels. Keep up the good work!— P.R. Shave, Scottish Agricultural Science Agency, East Craigs, Edinburgh EH12 8NJ.

# IN WHAT STAGE DOES *MICROMUS ANGULATUS* (STEPHENS, 1836) (NEUR.: HEMEROBIIDAE) OVERWINTER?

### GRAHAM A. COLLINS

15 Hurst Way, South Croydon, Surrey CR2 7AP.

MICROMUS ANGULATUS IS currently a poorly understood lacewing with only a handful of post-1980 records shown in Plant (1994). These records indicate that the adult is on the wing from mid-April to mid-October with a peak from late June to late August. Aubrook (1935) described breeding the species in captivity and found the length of the life-history from oviposition to the emergence of the adult to be rather less than one month; eggs were laid in early August and the first adult emerged in early September. As Aubrook had also taken a specimen in May of the same year, Killington (1936) inferred that there had been three broods that year. What the species does in the wild between October and April appears to be unknown, although in the laboratory they have overwintered as eggs (Plant, *in litt.*), so it was with no little surprise that I determined a small brown lacewing captured on 6 December as this species.

The story of its capture is of some interest and is as follows: on 6 December 1993, Roger Hawkins collected a few discarded drink cans from a Surrey downland site with a view to recycling them. Having taken them home and placed them on one side he observed a lacewing emerge from the aperture of a can and fly towards the window. This was the specimen that I determined.

A specimen so late in the year may have been a straggler from a late third brood, the adults of which lay overwintering eggs, or alternatively may have arisen from a pupa formed inside the can whose development was accelerated by the warm and sheltered microclimate. A third alternative is that the adult itself may overwinter, as is strongly suspected in *Drepanepteryx phalaenoides* (Linnaeus, 1758). The early stages do not appear to be known in the wild in this country although in Hungary the larvae have been found feeding on root aphids on cereal crops (Plant, *in litt.*). Finding ova or pupae is thus highly unlikely and we are no nearer to a solution to the problem. The observation made here does however suggest that pitfall trapping in grassland habitats may be an effective method of capture of *M. angulatus*.

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Plant, C.W., 1994. Provisional atlas of the lacewings and allied insects of Britain and Ireland. Biological Records Centre, Huntingdon.

# A further location for Hypena obsitalis Hb. (Lep.: Noctuidae)

A specimen of *Hypena obsitalis* Hb. came to the m.v. trap of David Fish from Churston, South Devon on 1.xii.1995; a further specimen was found by David Fish in a spider's web at the same location. I myself confirmed both specimens and I thank David Fish for letting me publish the record. Plants of pellitory-of-the-wall *Parietaria judaica*, the known foodplant, are growing in the area and on examination had signs of feeding very reminiscent of the actual larval feeding patterns seen at the other localities. Further work will be carried our during 1996 to confirm that the species is breeding here; if this proves to be so, this will be an additional locality for the species. Although this is in the same tetrad as all the other sites, this location fills in a space for this species which further indicates that it occurs all along this stretch of coastline where the foodplant occurs. This site is also the furthest inland that the moth has been seen, the rest being all coastal.

- ROY McCormick, Devonshire Lepidoptera Recorder, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

# Notes on the Silurian moth *Eriopygodes imbecilla* (Fabricius) (Lep.: Noctuidae)

I was very interested to read Dr P. Waring's notes on the Silurian moth (antea: 24-25). However it was with some surprise that I noted localities for this species, other than in the original gully, had not been documented before 1995. My brother and I took a small number of specimens at the site which I guess is the locality Dr Waring refers to as "to the south" on 28 June 1990. Our knowledge of the location was secondhand and we assumed, obviously in error, that this was common knowledge amongst those familiar with the Silurian. I have no idea as to how long this or perhaps other sites for this species within the same general area have been known but they obviously pre-date our visit.

However, any mention of this species brings back memories of certain events which occurred on the same evening of our visit mentioned above. We had arrived just after midday and amused ourselves searching for microlepidoptera. Later, as dusk was falling, a car pulled up and the driver introduced himself as a lepidopterist from the Midlands. As he may wish to remain anonymous I will refer to him as Mr X. After a brief discussion he continued to the "original" site and my brother and I set up our lights in the other locality. One of my chosen sites for the light was on a dry hummock entirely surrounded by marshy ground consisting of alternating grass tussocks and water-filled hollows that were mostly just deep enough to come over the brim of one's wellington boots. Later in the evening Mr X came down from his site to "see how we were getting on". As it happened his arrival coincided with specimens of the Silurian arriving on the sheet and naturally attention and conversation focused on this species. Gradually

conversation wandered over a wide variety of entomological subjects and some considerable time elapsed. Sometime after midnight we were suddenly aware that we had a visitor. Out of the darkness, without the aid of any illumination, a young man appeared. He stated that he lived in the valley immediately below us and had been curious as to the nature the bright lights on the mountainside. He had therefore walked up across some difficult terrain and successfully negotiated the mire surrounding my light; in full evening dress and dancing pumps! In consideration of the general state of the surrounding ground conditions we were amazed that his entire dress was in spotless condition. I now forget the nature of the conversation which followed, but Mr X suddenly interrupted proceedings to draw our attention to the fact that a fine male Silurian was resting on the laces of this young man's dancing pumps. I am not sure of the scientific value of this observation but I think it worth recording that should any entomologist be working the mountainous areas of South Wales, and come across a pair of dancing pumps, they should examine them closely and be alert to the possibility that males of the Silurian could be resting on the laces.- M.H. SMITH, 42 Bellefield Crescent, Trowbridge, Wiltshire BA14 8SR.

# Further information on the Silurian moth *Eriopygodes imbecilla* (Fabr.) in Wales

I am pleased that my previous note on *E.imbecilla* (antea: 24-25) has stimulated Michael Smith to put on record his valuable observation of the moth. He is correct in his realisation that almost all lepidopterists still seek the moth in the original gully and do not prospect more widely. As is often the case, snippets of important and useful information exist which the original observers have never got round to publishing, for a variety of reasons. Many such snippets are known only to a few and often their significance is not realised at the time. Collected together they can represent a major step forward in our understanding, however.

In my continuing investigations of *E. imbecilla* the following unpublished survey information has come my way and should be placed on record: The two gullies immediately to the north of the known gully were searched by Bernard Skinner after the original discovery, but the moth was not found. It seems that the moth was first discovered in the gully immediately to the south of the known gully by Martin Anthoney on 11 July 1985, when five males and one female came to light. This information only came to our attention, though not in such detail, via a letter in response to inquiries when the 1995 project was in preparation. Martin and I discussed it together when we met in the field and it is published here for the first time. It is probable that Michael Smith's informant, or a contact of his, met Martin in the field, because Martin has encountered collectors on three occasions while trapping for *E. imbecilla*. In the same letter Martin reports that he has operated an

m.v. light at several mountain sites in north and west Gwent, including the opposite side of the original mountain, with no sign of *E. imbecilla*, and he knows of no-one else who has found it outside the original small locality. However, Martin is not in the habit of running his light all night and the largest number of *E. imbecilla* he has seen in a night is eight, so it is entirely possible that it could be present but so far undetected at sites he has already worked.

Although I have corresponded with and spoken to a number of lepidopterists who have sought *E. imbecilla*, and sometimes found it, they are unable to add any additional localities for the moth. I would be most grateful to be informed of the outcome of any other past or future searches, whether positive or negative, at the known site or elsewhere and remain hopeful that the moth will be found even more widely than I demonstrated in 1995. I suspect that the moth was searched for at other sites, following the report of its discovery in Britain, but Bernard Skinner (*pers. comm.*) informs me that searches were limited because the original site soon became known on the lepidopterists' grape-vine. De Worms (1978, *Ent. Rec.* 90: 77-78 & 134) indicates that during searches in 1977 the moth was found over a large area of ground but nowhere away from the original locality and Horton, as Lepidoptera recorder for Monmouthshire, was of the same opinion in 1993. – PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough PE4 6LS.

# Unusual numbers of the Speckled Wood *Pararge aegeria* L. (Lep.: Satyridae) in South Lincolnshire

The Speckled Wood occurs commonly each year in the woods of South Kesteven which I have visited yearly since my retirement here some years ago but I was quite unprepared to see the massive population explosion of the species when I visited an area of woodland at Grimsthorpe Park near Bourne, on 24 August 1995 for a family outing. This butterfly was flying in numbers which neither I, nor my son, Nicholas, had ever seen before in any other part of the United Kingdom over many years. There were hundreds flying in the dappled shade along a main path and we counted at least 13 settled and flying a few yards in front of us. Indeed, the effect was more like a tropical forest clearing than in England. This picture continued all the way along the 500 yards of main path, and as there were a number of clearings and minor paths in this quite extensive woodland the numbers on that day must have been phenomenal. I should add that the spring brood hereabouts was unexceptional.

It would be interesting to learn whether any other observers have noted such an unusual population explosion of this species in our abnormally hot summer of 1995.— D.S. Burrows, "Witham Cottage", School Lane, Boothby Pagnell, Grantham, Lincolnshire NG33 4DL.

# THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 1991

# <sup>1</sup>BERNARD SKINNER AND <sup>2</sup>MARK PARSONS

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WHEN COMPARED with the previous year and, with hindsight, the following one, 1991 was generally poor for migrants with some species such as the Clouded Yellow *Colias croceus* (Geoffroy) qualifying for "scarce immigrant" status. Even the regular and not uncommon species which include the Red Admiral *Vanessa atalanta* (Linnaeus), Painted Lady *Cynthia cardui* (Linnaeus) and Humming-bird Hawkmoth *Macroglossum stellatarum* (Linnaeus) remained in below average numbers throughout the year. The Silver Y *Autographa gamma* (Linnaeus) fared better with several large influxes during August, including an eyewitness account of this and other species arriving on the Isle of Wight (Colenutt, 1992).

Two of our larger species of migrant hawkmoths proved to be exceptions to the general rule with over 500 examples of the Convolvulus Hawkmoth *Agrius convolvuli* (Linnaeus) reported during September and October and over 60 reports, either as larvae, pupae or adults, of the Death's-head Hawkmoth *Acherontia atropos* (Linnaeus) between August and November.

Several of the very rare visitors are worthy of comment. The two examples of the pyralid *Psammotis pulveralis* (Hübner) doubled the number of recent records (south-east Kent in 1989 and 1990) of this species which was last noted at the beginning of this century. The Dried Currant Moth *Ephestia figulilella* Gregson is normally a warehouse species associated with dried fruit, cereal and meal, however, its appearance on the beach at Dungeness, East Kent (VC15), at the same time as other migrant species suggests primary immigration. The discovery of pupae and freshly emerged adults of Berger's Clouded Yellow *Colias alfacariensis* Ribbe on Portland, Dorset (VC9), in September is believed to be the first authentic instance of breeding in this country.

Nineteen ninety-one witnessed the fourth and fifth British records of the Dusky Hook-tip *Drepana curvatula* (Borkhausen), these on consecutive days; the seventh to the tenth records of the Marbled Grey *Cryphia raptricula* (Denis & Schiffermüller); the ninth record of *Hymenia recurvalis* (Fabricius) and the fifth example of the Great Dart *Agrotis crassa* (Hübner) this century. The two records of the Tree-lichen Beauty *Cryphia algae* (Fabricius) from Herm and Guernsey add to the previous example in 1990 from the Channel Islands (VC113). The single captures from South Hampshire (VC11) and West Sussex (VC13) were the first for the British mainland since the nineteenth century. These represent the second to the fifth records for the British Isles this century.

The record of the Red-headed Chestnut *Conistra erythrocephala* (Denis & Schiffermüller) was the first in Britain since 1945; the example of the Orache *Trachea atriplicis* (Linnaeus) is only the eighth since 1915; and that of the Blair's Wainscot *Sedina buettneri* (Hering) is the fourth since 1952, when it was last recorded as a resident in Britain. Finally, five examples of the Spanish Carpet *Scotopteryx peribolata* (Hübner), previously only recorded on the mainland on four occasions, at the same Dorset (VC9) site as one in 1990 could suggest a possible colonisation.

The species listed in the annexes are laid out following Bradley & Fletcher (1979), with amendments where necessary. The abbreviations listed below are used in Annexe 1.

#### **Abbreviations**

E	Exotic	introduction	lescane
L	LAUTIC	muoduction	cscape

I Primary immigrant

In Introduction

O Overlooked resident

R Resident

R(i) Recent resident/Invader

R(t) Temporary resident

RIS Rothamsted Insect Survey

V Vagrant/wanderer

# ANNEXE 1: RECORDS OF "SCARCER" SPECIES

#### **YPONOMEUTIDAE**

# Yponomeuta evonymella (Linnaeus) [I?]

SOUTH HAMPSHIRE (11): Southsea, 31.7 (JRL); EAST NORFOLK (27): Brundall, 27.7 - 2; 29.7 - 3; 30.7 - 13; 31.7 - 22; 4.8; 12.8 (APF); SOUTH-EAST YORKSHIRE (61): Spurn Head, 3.8; 6.8 (RIS trap per BS); ORKNEY ISLANDS (111): Orphir, 28.7 (RIL).

# Y. rorrella (Hübner) [I?/V?]

SOUTH HAMPSHIRE (11): Southsea, 29.7 (JRL).

#### **ETHMIIDAE**

# Ethmia bipunctella (Fabricius) [I?/V?]

SOUTH DEVON (3): Colyton, 27.5 (Henwood 1992); BERKSHIRE (22): Uffington, 13.9 (E.W. Classey per Agassiz *et al* (1993)).

#### **MOMPHIDAE**

# Batrachedra parvulipunctella (Chrétien) [I?/O?]

Note: 1st British Record. Possibly resident as species of the genus *Batrachedra*, are not recognised migrants.

WEST CORNWALL (1): Cadgwith, 18.8 (Heckford 1994b).

#### COCHYLIDAE

# Cochylis molliculana (Zeller) [I?/V?]

Note: 1st British Record. This species is now established in Britain.

DORSET (9): Portland, 24.6 (Heckford 1994a).

#### **PYRALIDAE**

# Evergestis extimalis (Scopoli) [I?/V?]

Note: Records outside Thames estuary and Breckland only.

ISLE OF WIGHT (10): Freshwater, 3.9 (Knill-Jones 1992c); EAST NORFOLK (27): Westend, 12.8; 13.8 (GEH); SOUTH-EAST YORKSHIRE (61): Spurn Head, 8.8 (RIS trap per BS).

# Margaritia sticticalis (Linnaeus) [I]

WEST CORNWALL (1): Maenporth, 31.7 (RMc, also reported in Agassiz et al (1993)).

# Sitochroa palealis (Denis & Schiffermüller) [I?/R?/R(t)?]

SOUTH HAMPSHIRE (11): Chilling, Warsash, 4-8.10 - 8 (PMP); WEST SUSSEX (13): Thorney Island, 26.7 - 4 (BC); EAST SUFFOLK (25): Thorpeness, 31.7 (BFS); SOUTH-EAST YORKSHIRE (61): Spurn Head, 3.8 (RIS trap per BS).

### Ostrinia nubilalis (Hübner) [I?/R?]

Note: Records outside Thames estuary only.

DORSET (9): Portland Bird Observatory, 17.7 (MC); ISLE OF WIGHT (10): Chale Green, 31.7; 2.8; 4.8; 8.8; 14.8; 17.8; 21.8 )SC per SAKJ); EAST SUSSEX (14): Peacehaven, 26.7; 29.7 (CRP); SOUTH-EAST YORKSHIRE (61): Spurn Head, 6.7 (BS, also reported in Agassiz *et al* (1993)) - First Yorkshire record.

## Psammotis pulveralis (Hübner) [I]

DORSET (9): Portland Bird Observatory, 1.8 (MC, also reported in Agassiz *et al* (1993)); EAST SUSSEX (14): Peacehaven, 22.8 (CRP per BFS, also reported in Agassiz *et al* (1993)).

#### Udea fulvalis (Hübner) [I?/R(t)]

DORSET (9): Durleston, 30.7; 2.9 (PD, also reported in Agassiz *et al* (1993)); Highcliffe, Christchurch, 20.7; 15.8; 19.8 - 2 (EHW, also reported in Wild (1992) and Agassiz *et al* (1993)); Studland, 1.9 (BFS, also reported in Agassiz *et al* (1993)); SOUTH HAMPSHIRE (11): Lymington, 21.8 (AJP per BFS, also reported in Agassiz *et al* (1993)).

## Maruca vitrata (Fabricius) (=testulalis (Geyer)) [I?/E?]

DORSET (9): Swanage, 31.8 (S. Church per BFS, also reported in Agassiz et al (1993)).

#### Hymenia recurvalis (Fabricius) [I]

DORSET (9): Portland, 14.10 (MFH, also reported in Agassiz et al (1993)).

#### Palpita unionalis (Hübner) [I]

EAST CORNWALL (2): St. Austell Bay, 14.9 (WGK); SOUTH WILTSHIRE (8): Dinton, 10.10 (SMP); DORSET (9): Durleston, 10.10; 12.10 - 2 (DB); Ferndown, 4.9 (RRC); St. Albans Head, 9.10 (PD); Studland, 11.10; 13.10 (DB); 13.10 (P. Davey); ISLE OF WIGHT (10): Freshwater, 13.10 (Knill-Jones 1992c); SOUTH HAMPSHIRE (11): Burleston, 11.10 (GEH); Winchester, 12.10 (DHS); WEST SUSSEX (13): Walberton, 13.10 (JTR per CRP); EAST KENT (15): Dungeness, 31.7; 15.10 (SPC);

Greatstone, 7.8; 26.8; 15.10 (SPC); New Romney, 13.10 (KR per SPC); Lydd, 22.8 (KR per SPC); SOUTH ESSEX (18): Bradwell-on-Sea, 15.10; 16.10; 1.11 (SD); 11.10; as.10 - 4; 14.10 (AJD); NORTH LINCOLNSHIRE (54): Linwood, 11.10 (R. Lorand per RJ); Muckton, 13.10 (G. Wright per RJ).

Summary: (2): 1; (8): 1; (9): 8; (10): 1; (11): 2; (13): 1; (15): 7; (18): 9; (54): 2.

### Acrobasis tumidana (Denis & Schiffermüller) [I]

DOREST (9): Studland, 3.9 (BFS in Skinner (1995), also reported in Agassiz et al (1993)); EAST KENT (15); Dungeness, 1.8 (BFS in Skinner (1995) also reported in Agassiz et al (1993)); Greatstone, 27.8 (RET in Skinner (1995) also reported in Agassiz et al (1993)).

# Dioryctria abietella (Denis & Schiffermüller) [I?/V?]

DORSET (9): Portland Bird Observatory, 11.7 (MC, also reported in Agassiz et al (1993)); EAST KENT (15): Dungeness, 6.7; 31.7 (SPC, also reported in Agassiz et al (1993)); HERTFORDSHIRE (20): Harpenden, 14.7 (Riley & Townsend 1992); EAST SUFFOLK (25): Thorpeness, 31.7 (BFS, also reported in Agassiz et al (1993)); NORTH LINCOLNSHIRE (54): Northcotes, 21.7 (R. Lorand per RJ, also reported in Agassiz et al (1993)).

# Ephestia figuillella Gregson [I?]

EAST KENT (15): Dungeness, 9.10 (SPC, also reported in Clancy (1994) and Agassiz et al (1993)).

#### PAPILIONIDAE

# The Swallowtail Papilio machaon Linnaeus (? bigeneratus Verity) [In/I?]

Note: Subspecies not stated for the following records.

NORTH ESSEX (19): Beacon Hill, Harwich, 15.9; Bramble Island, Great Oakley, 29.7; The Naze, Walton, 14.7 (per JPB). All North Essex records from Hamford Water area may be the result of captive stock reported released in the area (BG2 per JPB); Harwich area 1-4.7, ova on fennel in allotment, adults. 8. Probably ex Frinton released stock (BG2); SOUTH-EAST YORKSHIRE (61): Spurn Head, 21.8 (R. Bolton, Miss J. Davidson per BS); CHANNEL ISLANDS (113): Icart, Guernsey, 26.5 - 1 (Austin 1991).

#### PIERIDAE

# Pale Clouded Yellow Colias hyale (Linnaeus) [I]

SOUTH ESSEX (18): Bradwell, 30.9 - 1 male; 4.10 - 1 male (AJD).

# Berger's Clouded Yellow C. alfacariensis Ribbe [I]

SOUTH DEVON (3): Honiton, 18.8 - 2 (Wedd 1992); DORSET (9): Portland, 10 males, 5 females, 2 pupae and 2 empty pupae. A further 16 examples found by BFS and AJP & CTP. Total of 22 males and 9 females seen (Harmer (1992); see also Pickles & Pickles (1992) and Skinner (1992)).

# Berger's Clouded Yellow C. alfacariensis Ribbe

or Pale Clouded Yellow C. hyale (Linnaeus) [I]

MIDDLESEX (21): Feltham Marshalling Yards, 7.7 - 1 male (Cribb 1991).

# Clouded Yellow C. croceus (Geoffroy) [I]

EAST CORNWALL (2): Rame Head, 5.9 - 1 male (VT); St. Austell, 3.10 (R. Lane per VT); Turnchapel, 25.9 (ST per VT); SOUTH DEVON (3): Bolt Head, 24.8 (RB per VY): East Prawle, late summer - approx. 20 (Catt 1992): Paignton, 18.7 (DB<sup>2</sup>): Scoble. 3.9 (DB<sup>2</sup>); Strete, 9.9 (DB<sup>2</sup>); Torcross, 13.9 (RMc); Wembury Point 9.9 (VT); SOUTH WILTSHIRE (8): Downton, 23.9 (I. Irwin per SMP): Pewsey Down, 28.6 - 1 male (S. Coombes per VT): DORSET (9): Lyme Regis undercliff, 29.9 - 1 female (APF): Portland Bird Observatory, 7.9 - 8.10 - 10 (MC); WEST SUSSEX (13); Rustington, 27.9 - 1 dead (DD); Thorney Island, 7.9: 25.9 (C.B. Collins per CRP); EAST SUSSEX (14): Beachy Head, 5.9 - 2 (DD): 8.9: 19.9 (P. Wilson per CRP): 13.10 - 2 (S. Hore per CRP): Birling Gap, 14.9 (DD); Burgess Hill, 17.9 (B. Fordham per CRP); Castle Hill, Lewes. 8.9 - I fresh male (PMP); Cuckmore Haven, near Eastbourne, 13.10 (DD); Eastbourne, 11.9 (H. Streeter per CRP); Mount Caburn, Lewes, 30.8 - 3 (DD); Seaford, 5.9; 8.9 - 6 (P. James per CRP); Seven Sisters, 3.9 ("Living World" per CRP); Uckfield, 7.9 (B. Fordham per CRP); Willingdon, 30.8 (DD); EAST KENT (15); Dungeness, 6.10 (W. Champkin per SPC); St. Mary's Bay, 12.9 (A. Rouse per SPC); SOUTH ESSEX (18): Bradwell-on-Sea, 9.9 - 1 female: 10.9 - 1 male: 13.9: 15.9 (AJD): NORTH ESSEX (19): Walton, 10.9 (C. Gibson per BG<sup>2</sup>); STAFFORDSHIRE (39); Moddershall, 7.9 (Koryszko 1992); SOUTH-EAST YORKSHIRE (61); Aldborough, 7.7 (M.C. & H.M. Frost); RENFREWSHIRE (76); Laigh Park, Paisley, 14.10 (C. Balling per Hancock (1993)); CHANNEL ISLANDS (113); Grandes Rocques, Guernsey, 8.9 (Austin 1991). Summary: (2): 3; (3): 7+; (8): 2; (9): 11; (13): 3; (14): 24; (15): 2; (18): 4; (19): 1; (39): 1; (61): 1; (113): 1.

# Bath White Pontia daplidice (Linnaeus) [I]

SOUTH DEVON (3): East Prawle, 4.8 (Catt 1992).

# LYCAENIDAE

Long-tailed Blue Lampides boeticus (Linnaeus) [I]

SOUTH DEVON (3): East Prawle, 4.8 (Catt 1992).

#### NYMPHALIDAE

Large Tortoiseshell Nymphalis polychloros (Linnaeus) [I]

EAST KENT (15): Faversham, 11.10 (M.R. Hodges per BFS).

#### Queen of Spain Fritillary Argynnis lathonia (Linnaeus) [I]

SOUTH DEVON (3): East Prawle, 21.9 - 1 female (Catt 1992); EAST NORFOLK (27): Gorleston-on-Sea, 16.8 - 1 male (Bales 1991); CHANNEL ISLANDS (113): Jersey, undated and no further locality given (Austin 1992): Sark, 24.9 - 2 (M. Long per Austin 1992)).

#### DREPANIDAE

# Dusky Hook-tip Drepana curvatula (Borkhausen) [I]

EAST KENT (15): Greatstone, 21.8 - 1 female (BB per SPC); SOUTH HAMPSHIRE (11): Totton, 22.8 (M. Jeffes per BG).

#### GEOMETRIDAE

#### Blair's Mocha Cyclophora puppillaria (Hübner) [I]

DORSET (9): Studland 12.10 (DB); CHANNEL ISLANDS (113): Forest, Guernsey, 1.9 (TNDP) per Austin (1991)).

# Least Carpet Idaea vulpinaria atrosignaria Lempke [I?/V?]

Note: Records outside south-east England only.

DORSET (9): Highcliffe, 29.7 (AJP, see also Pickles et al (1992)); ISLE OF WIGHT

(10): Binstead, between 28.7 and 26.8 - 2 (B. Warne, Knill-Jones (1992b)); Chale Green, between 28.7 and 26.8 - 4 (SC per Knill-Jones (1992b)); Freshwater, between 28.7 and 26.8 - 3 (SAKJ per Knill-Jones (1992b)); Niton, between 28.7 and 26.8 - 3 (D. Wooldridge per Knill-Jones (1992b)); WARWICKSHIRE (38): Hillmarton, 1.8 (Dr D. Porter per Brown (1992a)); Charlecote, 2.8 (Brown 1992a); CHANNEL ISLANDS (113): Guernsey, 3.8 - 3.9, recorded on 4 nights (Austin 1992).

## The Vestal Rhodometra sacraria (Linnaeus) [I]

DORSET (9): Portland Bird Observatory, 9.10 (MC); EAST KENT (15): Densole, 29.8 (A. Rouse per SPC); SURREY (17): Buckland, Reigate, 4.9 (CH); SOUTH ESSEX: Bradwell-on-Sea, 24.8 - 1 female (AJD); NORTH ESSEX (19): St. Osyth, 21.9 (RWA per BG<sup>2</sup>); WEST LANCASHIRE (60): Birk Bank, Queramore, 9.9 (Mrs M.J. Dempsey); MID CORK (H4): Coolmore, 1.9 (KGMB).

# The Gem Orthonama obstipata (Fabricius) [I]

EAST KENT (15): Dungeness, 29.10 - 1 female (RMc per BFS); SOUTH ESSEX (18): Bradwell-on-Sea, 12.10 - 1 male; 30.10 - 1 male (SD); NORTH ESSEX (19): St. Osyth, 9.10; 13.10 (RWA per BG²); WARWICKSHIRE (38): Tysoe, 18.7 (RCK per DB); SOUTH-EAST YORKSHIRE (61): Filey, 12.10 - 1 female (PQW); Flamborough, undated - 2 male and 1 female (PQW); Muston, nr. Filey, 13.10 - 1 male (PQW); ORKNEY ISLANDS (111): North Ronaldsay Lighthouse, 14.10 - 2 (M. Gray per IRL).

# Spanish Carpet Scotopteryx peribolata (Hübner)

Note: Does not include Channel Islands records where it is resident. DORSET (9): Studland, 3.9 - 2 (RMc & CCP); 6.9 - 3 (BFS).

#### Cypress Carpet Thera cupressata Geyer [I?/R(i)]

Note: Channel Islands records probably represent resident examples. It is possible that the record from the Isle of Wight was of resident example.

ISLE OF WIGHT (10): Chale Green, 28.11 (SC per SAKJ); CHANNEL ISLANDS (113): St. John, Guernsey, 18.5 to 20.7 (6 nights); 16.10 - 4; 23.10; 28.10 - 3 (Austin 1991); Forest, Guernsey, 26.10 (TNDP per Austin (1991)).

### Dusky Peacock Semiothisa signaria (Hübner) [I]

NORTH ESSEX (19): St. Osyth, 6.7 (RWA per BG<sup>2</sup>); EAST NORFOLK (27): Strumpshaw, 7.7 (A. Whitehouse, det. G. Haggett per DH).

#### **SPHINGIDAE**

## Convolvulus Hawkmoth Agrius convolvuli (Linnaeus) [I]

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county. Where no numbers were given for an individual record, it was taken to be one. For some records the numbers given were approximate, therefore the totals given below are approximate and serve to give an indication of numbers recorded. This is followed by the monthly representation of the records. In a few cases it was impossible to assign a given record to an individual month. These records were ignored. As with the totals for the vice-counties, the monthly totals are approximate.

(1): 14+ (= 1 larva); (2): 28+; (3): 57; (6): 6; (8): 2; (9): 140; (10): 15; (11): 6; (13): 45; (14): 108 (+ 1 pupa); Sussex: 21; (15): 68+ (+ 3 larvae & 19 ova); (16): 1 larva; (17): 4;

(18): 11; (19): 13; (20):1; (21): 2; (27): 3; (28): 3; (29): 1; (38): 2; (39): 1; (44): 1; (45): 1; (54): 7 (+ 7 larvae); (56): 2; (60): (several larvae); (61): 5 (+ 5 larvae); (62): 3 (+ 1 larva); (64): 2; (71): 3; Northumberland: 4 larvae; (111): 4+; (113): 8; (H3): 2; (H5): 3; (H11): 1; (H37): 2; (H38): 1; North Sea: Conoco Viking B Platform, 80 miles from Lincolnshire coast (J. Jaines per RJ).

July: 6 (1 larva); August: 4 (4 larvae); September: 394 (10 larvae, 16 ova); October: 180 (1 larva, 3 ova).

Earliest date: 8.7, Sheringham, East Norfolk (27).

Latest date: 26.10, Brighton, Sussex.

# Death's-head Hawkmoth Acherontia atropos (Linnaeus) [I]

WEST CORNWALL (1): Mabe, 8.12 (FHNS); SOUTH DEVON (3): Prawle Point, 9.10 (P. Sanders per VT); SOUTH WILTSHIRE (8): Steeple Langford, 1.9 - 2 larvae found on Solanum dulcamara (N. Pollard per SMP); DORSET (9): Cranbourne Chase (possibly in VC8), 22.9 - 1 larva (JWF); Durlston, 9.10 (DB); Portland Bird Observatory, 16.10 (MC); ISLE OF WIGHT (10): Freshwater, 10.10 (by a pupil of West Wight Middle School per SAKJ); Merstone, 18.7 (J. Gloyn per SAKJ); NORTH HAMPSHIRE (12): Hook, .9 (K. Gobbett per AHD); Sherfield St. John, .9 (K. Gobbett per AHD); HAMPSHIRE: no locality or date - 2 larvae (Andrews 1992); WEST SUSSEX (13): Southwick, 28.9 (DD); EAST SUSSEX (14): Newhaven, .10 (S. Warren per CRP); Ninfield, 5.9, full-grown larva (green form) (Mr McGinnis per CRP); Saltdean, 9.10 (L. Fowler per CP); EAST KENT (15): Greatstone, .8 - found dead on roadside (per SPC); KENT: no locality or date given - 3 found in beehives by a Kent beekeeper (J. Cissburn per AHD); SURREY (17): Selhurst (17): Selhurst, 5.9, fullgrown larva (yellow form) (Mrs Clayton, CRP); NORTH ESSEX (19): Tiptree, 7.10 - 1 Watts per BG<sup>2</sup>); Debden Green, a number of pupae (RHM); HERTFORDSHIRE (20): Green Tye, 12.9 - 2 larvae (1 from pupil of a local primary school); 9/10.10 - 3 pupae (Wilson 1992); High Wych., pupa (R. Reed per CWP); Perry Green, .9 - 2 larvae (H. Ashwell per DEW); OXFORDSHIRE (23): Milton, 1.9 - 1 fullfed larva (per FHNS); BUCKINGHAMSHIRE (24): Waddesdon, nr. Aylesbury, 27.8 - 1 full-grown larva, a pupa found later (D.J. Spencer per GDB); Winslow, .9 - 17 pupae in potato field (per DB); EAST NORFOLK (27): Wramplingham, 22.9 (C. Smith); WEST NORFOLK (28): 13.8, larva on potato (P.R. Banham per DH); WARWICKSHIRE (38): Long Itchington, 23.11 - pupa dug up (Mr Grubb per DB); Wealford on Avon, 15.9 -26.11 - 12 pupae (D. Beech per DB); SHROPSHIRE (40): Brown Moss, undated (Riley & Palmer 1994); SOUTH-WEST YORKSHIRE (63): Harthill, Rotherham, 19.9 - 1 larva on allotments (W.A. Ely per PQW), Kiveton Park, near Sheffield, .9 - 1 larva (per T. Nettleship (Gardiner 1991)).

Summary: (1): 1; (3): 1; (8): 2 larvae; (9): 2 (+ 1 larva); (10):2; (12): 2; Hampshire: 2; larvae (13): 1; (14): 2 (+ 1 larva); (15): 1; Kent: 3; (17): 1 larva; (19): 2+ pupae; (20): 4 larvae and 4 pupae; (23): 1 larva; (24): 1 larva, 18 pupae; (27): 1; (28): 1 larva; (38): 13 pupae; (40): 1; (63): 2 larvae.

# Humming-bird Hawkmoth Macroglossum stellatarum (Linnaeus) [I/R(t)?/R?]

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county. Where no numbers were given for an individual record, it was taken to be one. For some records the numbers given were approximate, therefore the totals given below are approximate and serve only to give an indication of numbers recorded. This is followed by the monthly representation of the records. In a few cases it was impossible to assign a given record to an individual month. These

records were ignored. As with the totals for the vice-counties, the monthly totals are approximate.

(1): 18; (2): 9; (3): 3; (6): 2; (8): 5; (9): 16; (10): 6; (11): 1; (13): 13; (14): 51; Sussex: 4; (15): 7 larvae; (17): 2; (18): 9; (19): 14; (20): 1; (21): 1; (25): 1; (26): 1; (27): 5; (28): 4; (38): 2; (53): 2; (54): 3; (56): 1; (61): 4; (64): 2; (69): 1; (71): 4; (113): 12; (H4): 2; (H33): 2; (H36): 1; (H37): 1; (H38): 1; (H39): 2.

March: 6; April: 7; May: 3; June: 29; July: 29; August: 19 (+7 larvae); September: 86; October: 49; November: 1; December: 1.

Earliest date: 4.3, Mount Arrive, Guernsey, Channel Islands (113).

Latest date: 3.12, Blandford, Dorset (9) - in a brewery workshop (Butt 1992).

# Spurge Hawkmoth Hyles euphorbiae (Linnaeus) [I]

SOUTH DEVON (3): Newton Abbot, 17.6 (Pettit 1991).

# Bedstraw Hawkmoth H. gallii (Rottemburg) [I]

ISLE OF WIGHT (10): Sandown Pier, 1.9 (M. Buckley per SAK-); WEST NORFOLK (28): Caston, 7.7 - 1 female (Haggett 1992); NORTH LINCOLNSHIRE (54): Flixborough, 29.6 - 1 female (laid 60 fertile ova) (RJ); Little Cawthorpe, 6.6 (J. Jaines per RJ); SOUTH LANCASHIRE (59): Sawley, 14.9 - larva (BLS); SOUTH-EAST YORKSHIRE (61): Easington, 13.9 - larva (M.-C. Frost); SHETLAND ISLANDS (112): Fair Isle Bird Observatory, 26.7 (in "Birdwatching" magazine per DD.

#### LYMANTRIIDAE

# Brown-tail Euproctis chrysorrhoea (Linnaeus) [I?/V?/R?]

Note: Records outside known resident range only.

SOUTH WILTSHIRE (8): Blackmore Copse, 26.7 (SMP); Middleton Down, 11.5 - larval nest on *Crataegus* (SMP); HERTFORDSHIRE (20): Green Tye, 13.7; 28.7 (DEW); EAST NORFOLK (27): Winterton, 1.8, approx. 30 (DH & APF); WARWICKSHIRE (38): Shottery, Stratford upon Avon, 26.7 (R. Bliss per Brown (1992a)); SOUTH-EAST YORKSHIRE (61): Aike, Beverly, 1.8 (per PQW); Flamborough, 31.7 - 26 (PQW); Muston, 29.7; 30.7; 31.7 - 5; 1.8 - 2; 2.8 - 2; 3.8 (PQW); Spurn Head, 30.7 - 3; 31.7; 1.8 - 3; 2.8; 3.8 - 2 (BS); NORTH-EAST YORKSHIRE (62): Grosmont, 30.7 - 3; 31.7; 4.8; 5.8 (W. Norman per PQW); Wykeham, 31.7/1.8 (RIS trap, PQW); NORTHUMBERLAND: locality or date not given, 30 (JDP & AP); CHANNEL ISLANDS (113): L'Ancresse, Guernsey, 3.8 (Austin 1991).

Summary: (8): 1 (+ larval nest); (20): 2; (27): 30 approx.; (38): 1; (61): 48; (62): 7; Northumberland: 30; (113): 1.

### Gypsy Moth Lymantria dispar (Linnaeus) [I]

ISLE OF WIGHT (10): Godshill, 28.8 (Cramp 1992); SOUTH HAMPSHIRE (11): Brockenhurst, 21.8 - 1 male (JEC); EAST SUSSEX (14): Crowborough, 21.8 (Simmons 1992); EAST KENT (15): Greatstone, 21.8 - 1 male, (RET per SPC); CHANNEL ISLANDS (113): Forest, Guernsey (TNDP per Austin (1991)); St. John (Austin 1991).

#### **ARCTIIDAE**

#### Dotted Footman Pelosia muscerda (Hufnagel) [I]

SOUTH WILTSHIRE (8): Dinton Wood (RAF Chilmark), 4.8 (J. Pitman & SMP); SOUTH ESSEX (18): Bradwell-on-Sea, 27.7 (DJW).

# Jersey Tiger Euplagia quadripunctaria (Poda) [I?/V?]

Note: Records outside known resident range only.

DORSET (9): Durlston, 1.9 (per RP); 3.9 (BLS); Portland, 24.8 - ab. *lutescens* (DY); ISLE OF WIGHT (10): Tennyson Down, 11.9 - 1 male found dead on track (Knill-Jones 1992a); WEST SUSSEX (13): Walberton, 28.8 (JTR per CRP).

# Scarlet Tiger Callimorpha dominula (Linnaeus) [In?]

EAST SUSSEX (14): South Heighton, Newhaven, 14.6 (? release). Another 12 miles away in June (J. Stedman per CP).

#### NOLIDAE

# Kent Black Arches Meganola albula (Denis & Schiffermüller) [I?/V?]

BERKSHIRE (22): Fernham, 22.7 (Nash 1992); EAST NORFOLK (27): Norwich, 31.7 (DH); SOUTH-EAST YORKSHIRE (61): Spurn Head, 1.8 (BS); CHANNEL ISLANDS (113): L'Ancresse, Guernsey, 3.8 (Austin 1991).

#### NOCTUIDAE

# Coast Dart Euxoa cursoria (Hufnagel) [I?/V?]

EAST KENT (15): Reculver, 3.7 (M. Davies per TWH); SOUTH ESSEX (18): Bradwell-on-Sea, 27.7 (DJW).

# Great Dart Agrotis crassa (Hübner) [I]

DORSET (9): Portland Bird Observatory, 2.8 (MC).

# Great Borcade Eurois occulta (Linnaeus) [I]

EAST KENT (15): Densole, 30.7 - 1 female (A. Rouse per SPC); Port Regis, Thanet, 10.8 (TWH); WEST SUFFOLK (26): Lakenheath, 9.8 (BFS); EAST NORFOLK (27): Brundall, 8.8; 12.8 (APF); Wroxham, 8.8 (N. Bowman per DH); NORTH LINCOLNSHIRE (54): Little Cawthorpe, 29.8 (G. Wright per RJ); SOUTH-EAST YORKSHIRE (61): Bubwith, 29.7; 3.9 (G.B. Summers per PQW); BANFFSHIRE (94): Cornhill, 25.7 - 2; 29.7, plus another found dead, all of grey immigrant form (RL); ORKNEY ISLANDS (111): Orphir, 27.7-3.8 - 2, pale grey form (RIL); St. Ola, 27.7-3.8 - 4, pale grey form (S.V. Gauld per RIL).

# White-point Mythimna albipuncta (Denis & Schiffermüller) [I/R(t)?]

Note: Possibly temporarily resident over part of the recorded range.

WEST CORNWALL (1): Lizard, 7.9; 8.9 (DB); EAST CORNWALL (2): St. Austell Bay, 1.9 (WGK); Woodford, nr. Bude, 21.7 (P. Fleming); DORSET (9): Abbotsbury, 22.9 (DB); Corfe Castle, 16.8; 28.8; 29.8; 1.9 - 2; 2.9 - 5; 3.9; 4.9; 10.9; 11.9 - 4; 12.9 - 2; 14.9 - 5; 15.9 (RB²); Durlston, 13.8; 2.9; 14.9 - 3 (PD); 12.10 (DB & MFH); Gaunts Common, 14.9 (PD); Portland, 15.10 (MFH); Portland Bird Observatory; 1.6; 1.8; 2.8; 26.8-22.9 - 10 (MC); Studland, 9.10 - 2; 13.10 (DB); Swanage, 17.6 (DEW); 12.10 (MFH); ISLE OF WIGHT (10): Chale Green, 2.7-26.8 - 15 (SC per SAKJ); Freshwater, 8.9; 12.9 (SAK-J); Porchfield, 11.7 (D. Wooldridge per SAKJ); SOUTH HAMPSHIRE (11): Brockenhurst, 31.5 - 1 male; 1.9 - 1 female (JEC); Chilling, Warsash, 16.6; 1.7; 2.9; 309; 14.9; 15.9 (PMP); Southsea, 22.8 (JRL); WEST SUSSEX (13): Church Norton, 10.10 (GEH); Hassocks, 24.9 (DD); Littlehampton, 16.9 (R.J.L. Kemp per CRP); Walberton, 22.6; 27.8; 30.8; 31.8; 1.9; 2.9; 3.9; 5.9 - 2; 14.9 (JTR per CRP); EAST SUSSEX (14): Crowborough, 24.9 (Simmons 1992); Peacehaven, 31.8 - 3; 1.9 (DB);

1.9; 21.9 (SPC); 13.9 (MFH); Greatstone, 27.8; 31.8; 2.9 (BBper SPC); 3.9 (RET per SPC); Lydd, 3.9 - 2; 4.9; 13.9 (KR per SPC); New Romney, 25.8; 1.9 (KR per SPC); SOUTH ESSEX (18): Bradwell-on-Sea, 26.6 (SD); 2.9 - 1 female; 3.9 - 1 male; 4.9 - 1 male; 5.9 - 1 male; 11.9 - 1 male (AJD); MIDDLESEX (21): Parliament Hill, 7.9 (RAS); WEST NORFOLK (28): Downham Market, 8.10 (MFH); CHANNEL ISLANDS (113): Guernsey, 9.6-7.10 - 14 records (Austin 1991).

Summary: (1): 2; (2): 2; (9): 52; (10): 18; (11): 9; (13): 13; (14): 7; (15): 18; (18): 6; (21): 1; (28): 1; (113): 14.

# The Delicate M. vitellina (Hübner) [I/R(t)?]

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county. Wher no numbers were given for an individual record, it was taken to be one. For some records the numbers given were approximate, therefore the totals given below are approximate and serve to give an indication of numbers recorded. This is followed by the monthly representation of the records. In a few cases it was impossible to assign a given record to an individual month. These records were ignored. As with the totals for the vice-counties, the monthly totals are approximate. (1): 2; (8): 1; (9): 620+; (10): 39; (11): 9; (13): 32; (14): 10; (15): 13; (18): 8; (19): 2; (28): 1; (113): 53; (H3): 1.

June: 2; July: 1; August: 1; September: 21; October: 572; November: 1; December: 1. Earliest date: 29.6, Portland Bird Ovservatory, Dorset (9).

Latest date: 1.12, Walberton, West Sussex (13).

# L-album Wainscot M. l-album (Linnaeus) [I?/R?]

Note: Records outside Sussex to Cornwall only and not including Channel Islands. EAST KENT (15): Greatstone, 11.10 (BB per SPC); 14.10 (SPC); Littlestone, 13.10 (KR per SPC); New Romney, 9.10 (KR per SPC).

# White-speck M. unipuncta (Haworth) [I]

WEST CORNWALL (1): Coverack, 22.7 (A. Gardner per DB); St. Mary's, Isles of Scilly, 13-26.9 - 4 (RAS); DORSET (9): Corfe Castle, 11.9; 14.10 RB²); Durleston, 10.10 (per RP); 12.10 (GAC); 26.11 (PD); Portland, 23.9 (MFH); Portland Bird Observatory, 3.10; 9.10; 10.10; 21.10; 1.11 (MC); St. Albans Head, 8.10; 9.10 - 3 (PD); Studland, 13.10 (DB); ISLE OF WIGHT (10): Freshwater, 28.11; 27.12 (SAKJ); Godshill, 28.11 (P.J. Cramp per SAKJ); WEST SUSSEX (13): Walberton, 29.11 (JTR per CRP); EAST KENT (15): Greatstone, 20.10 (RET per SPC); Lydd, 14.10 (KR per SPC); New Romney, 24.11 (KR, SPC); SOUTH ESSEX (18): Bradwell-on-Sea, 1.9 (AJD); CHANNEL ISLANDS (113): Forest, Guernsey, 21.9 (YNDP per Austin 1991). Summary: (1): 5; (9): 16; (10): 3; (13): 1; (15): 3; (18): 1; (113): 1.

## The Cosmopolitan M. loreyi (Duponchel) [I]

DORSET (9): Portland, 14.10 (MFH).

#### Red Sword-grass Xylena vetusta (Hübner) [I]

SURREY (17): Hog's Back , 24.3 - 1 male (Halsey 1992); NORTH ESSEX (19): St. Osyth, 16.10 (RWA per BG<sup>2</sup>).

# Flame Brocade Trigonophora flammea (Esper) [I]

Note: Does not include Channel Islands wher the species is resident. DORSET (9): Durleston, 10.10; 11.10, 12.10; 13.10; 14.10 (DB, MFH); 11.10; 12.10; 15:10 (per RP); 12.10 - 1 female (GAC); Portland Bird Observatory, 10.10 (MC).

# Red-headed Chestnut Conistra erythrocephala (Denis & Schiffermüller) [I]

WEST SUSSEX (13): Pagham Harbour, 29.10 - 1 ab. glabra (Gardner 1992).

# Tree-lichen Beauty Cryphia algae (Fabricius) [I]

SOUTH HAMPSHIRE (11): Southsea, 21.8 (Langmaid 1992); WEST SUSSEX (13): Walberton, 1.9 (JTR per CRP); CHANNEL ISLANDS (113): Forest, Guernsey, 1.9 (TNDP, also reported in Austin (1991)), Herm, 2.9 (MS).

# Marbled Grey C. raptricula (Denis & Schiffermüller) [I]

EAST KENT(15): Dungeness, 31.7 (Clancy 1992); Greatstone, 7.8; 26.8 (RET per Clancy (1992); Lydd, 22.8 (KR per Clancy (1992)).

# The Orache Trachea atriplicis (Linnaeus) [I]

EAST NORFOLK (27): Hickling, 21.7 (R. Heppenstall, det. conf. H. Beaumont per DH).

# Angle-striped Sallow Enargia paleacea (Esper) [I]

DORSET (9): Portland Bird Observatory, 30.7 (MC).

# Scarce Brindle Apamea lateritia (Hufnagel) [I]

SOUTH-EAST YORKSHIRE (61): Spurn Head, 17.7 (Spence 1992).

# Mere Wainscot Photedes fluxa (Hübner) [I?/V?]

DORSET (9): Portland Bird Observatory, 29.7 (MC); EAST KENT (15): Kingsgate, Thanet, 11.8 (F. Solly per TWH); SOUTH-EAST YORKSHIRE (61): Spurn Head, 1.8; 3.8 - 1 found dead (BS).

# Blair's Wainscot Sedina buettneri (Hering) [I]

EAST KENT (15): Dungeness, 12.10 (AJ).

# Small Mottled Willow Spodoptera exigua (Hübner) [I]

DORSET (9):Portland Bird Observatory, 16.10 (MC).

#### Scarce Bordered Straw Heliothis armigera (Hübner) [1]

DORSET (9): Gaunts Common, 10.10 (PD); Portland, 14.10 - 3; 15.10 - 2 (MFH); Portland Bird Observatory, 10.10-24.10 - 8 (MC); St. Albans Head, 8.10; 9.10 - 2 (PD); Studland, 10.10; 14.10 (DB); 13.10 (PD); SOUTH HAMPSHIRE (11): Brockenhurst, 8.10 (JEC); WEST SUSSEX (13): Littlehampton Dunes, 14.10 (APF & MSP, also reported in Foster (1992)); Walberton, 8.10 (JTR per CRP); SURREY (17): Wisley RHS Garden, 8/9.10 (AJH); SOUTH ESSEX (18): Bradwell-on-Sea, 16.10 (SD).

### Bordered Straw H. peltigera (Denis & Schiffermüller) [I]

DORSET (9): Durleston, 21.9 DB); 22.9 (per RP); ISLE OF WIGHT (10): Chale Green, 26.7 - 2 (SC per SAKJ); SURREY (17): Wisley RHS Garden, 8.10 (RIS trap per AJH); NORTH ESSEX (19): Dovercourt, 14.10 (Mrs D.M. Anthony per BG<sup>2</sup>); NORTH LINCOLNSHIRE (54): Northcotes, 23.7 (R. Lorand per RJ).

#### Silver Barred Deltote bankiana (Fabricius) [17/V?]

SOUTH ESSEX (18): Bradwell-on-Sea, 11.7 (AJD); 15.7 (SD).

#### Golden Twin-spot Chrysodeixis chalcites (Esper) [I]

DORSET (9): Portland Bird Observatory, 4.9 (MC); 14.9 (NH & MC); SOUTH HAMPSHIRE (11): Chilling, Warsash, 6.8 (PMP); WEST SUSSEX (13): Littlehampton

Dunes, 14.10 - 4 females and 1 male (4 at m.v., 1 female at ivy blossum) (APF & MSP, also reported in Foster (1992)); Walberton, 11.10; 15.10 (JTR per CRP); EAST SUSSEX (14): Peacehaven, 3.8 (CRP); SOUTH ESSEX (18): Bradwell-on-Sea, 21.9 - 1 female (AJD); NORTH ESSEX (19): St. Oysth, 21.9 (RWA per BG<sup>2</sup>).

# Dewicks Plusia Macdunnoughia confusa (Stephens) [I]

SOUTH HAMPSHIRE (11): Portsmouth, 28.8 (Lakin 1992); EAST KENT (15): New Romney, 9.10 - 1 male (KR per SPC); WARWICKSHIRE (38): Bearley, nr. Stratford, 4.9 (I. Reid per Brown 1992b).

# Golden Spangle Autographa bractea (Denis & Schiffermüller) [I?/V?]

Note: Records outside known resident range only.

SOUTH-EAST YORKSHIRE (61): Flamborough, 31.7 (PQW); Muston, 8.8 (PQW); Spurn, 3.8 (BS); 17.8 (RIS trap per BS); Withernsea, 29.7 (per M.-C. Frost, confirmed BS); NORTH-EAST YORKSHIRE (62): Wass, "a fair number", no dates given (A.M.R. Heron per PQW); Grosmont, 3.8 (W. Norman per PQW).

# Scarce Silver Y Syngrapha interrogationis (Linnaeus) [1?]

ORKNEY ISLANDS (111): Orphir, 1.8 - 1 of North (Continental) European form (IRL).

## ANNEXE 2: SELECTED RECORDS OF "COMMONER" SPECIES

This annexe gives a very brief summary of the abundance over the year (on occasions comparisons being made with other years) and the earliest and latest dates for the more frequent immigrant species which are not covered in Annexe 1, such as large numbers of an individual species or unusual records of resident species which may be the result of migrant activity, are also given.

#### **YPONOMEUTIDAE**

## Plutella xylostella (Linnaeus)

Comparatively few reports received.

Earliest date: BERKSHIRE (22): Fernham, 15.5 (SN).

Latest date: NOTH HAMPSHIRE (12): Burghclere, 1.12 (GCEF).

Other significant records: DORSET (9): Portland, 30.7 - c.50 (PD); SOUTH-EAST

YORKSHIRE (61): Spurn, 9.7 - 46, in RIS trap (BS).

#### **PYRALIDAE**

#### Udea ferrugalis (Hübner)

Comparatively few reports received (estimated at approx. 250 examples). Earliest date: SOUTH HAMPSHIRE (11): Chilling, Warsash, 21.7 (PMP).

Latest date: DORSET (9): Durlston, 26.11 (PD).

Other significant records: DORSET (9): Durleston, 22.9 - 22 (PD).

#### Nomophila noctuella (Denis & Schiffermüller)

Very few records received (under 40 examples).

Earliest date: ORKNEY ISLANDS (111): Orphir, 23.5 (RIL). Latest date: DORSET (9): Portland Bird Observatory, 29.10 (MC).

#### PIERIDAE

# Large White Pieris brassicae (Linnaeus)

Possibly significant records only: DORSET (9): Portland, 8.8 - a considerable northward movement in from the sea (MC); ORKNEY ISLANDS (111): Orphir, 6.6 - only sizeable migration of the year (RIL).

#### NYMPHALIDAE

# Red Admiral Vanessa atalanta (Linnaeus)

See introductory text.

Earliest date: SOUTH HAMPSHIRE (11): Chilling, Warsash, 22.4 (PMP). Latest date: SOUTH HAMPSHIRE (11): Titchfield Haven, 26.11 (PMP).

Other significant records: SOUTH DEVON (3): East Prawle, 4.8 - "hundreds" (Catt 1992); Prawle Point, 27.9 - 72+ DB<sup>2</sup>); Scoble, 26.9 - 30 (DB<sup>2</sup>); SOUTH HAMPSHIRE (11): Titchfield Haven, 12.10 - 20 (PMP); EAST SUSSEX (14): 205 records, highest recorded number for at least 20 years at this locality (CRP); SOUTH ESSEX (18): Bradwell, 3.8 - 59; 27.8 - 27; 9.9 - 25 (AJD); CHANNEL ISLANDS (113): Sausmarez Road, Guernsey, 14.9 (TNDP); Co. FERMANAGH (H33): Bellanaleck, 31.8 & 1.9 - 22 (IR); Co. DOWN (H38): Newcastle, 22.9 - 25 (per IR).

# Painted Lady Cynthia cardui (Linnaeus)

See introductory text.

Earliest date: Co. FERMANAGH (H33): LISNASKEA, 5.5 (PER IR).

Latest date: DORSET (9): Portland, 5.11 (MC).

Other significant records: SOUTH DEVON (3): East Prawle, 4.8 - "hundreds" (Catt 1992); Soar, nr. Bolt Head, 7.9 - 10, "watched off the sea" (VT); DORSET (9): Portland, 30.9 - 3 at m.v. light (MFH); EAST SUSSEX (14): 68 records, highest recorded number for at least 20 years at this locality (CRP); SOUTH ESSEX (18): Bradwell, 2.9 - 37 (AJD); NORTH ESSEX (19): WALTON, 10.9 - c.20 (C. Gibson per BG<sup>2</sup>).

#### GEOMETRIDAE

### Latticed Heath Semiothisa clathrata (Linnaeus)

Possibly significant records only: SOUTH ESSEX (18): Bradwell, 30.7 - 121; 14.8 - 224, very few prior to 1am; 15.8 - 34 (SD); 30.7 - 135; 14.8 - 297; 15.8 - 48 (AJD).

# **NOCTUIDAE**

## Dark Sword-grass Agrotis ipsilon (Hufnagel)

Comparitively very few records received (estimated at approx. 150 examples).

Earliest date: EAST SUSSEX (14): Sedlescombe, 11.4 (PPR).

Latest date: DORSET (9): Durleston, 26.11 (PD).

Other significant records: ISLE OF WIGHT (10): Freshwater, "Not more than 20" noted during the year (SAKJ); EAST SUSSEX (14): Peacehaven, lowest number recorded at this locality for at least 20 years (CRP).

### Large Yellow Underwing Noctua pronuba (Linnaeus)

Possibly significant record only: EAST NORFOLK (27): Winterton Dunes, 1.8, huge influx (APF & DH).

# Pearly Underwing Peridroma saucia (Hübner)

Compariatively very few records received (estimated at approx. 70 examples).

Earliest date: ORKNEY ISLANDS (111): Orphir, 22.5 (RIL).

Latest date: DORSET (9): Durleston, 16.12 (PD).

Other significant records: ISLE OF WIGHT (10): Freshwater, "Only 6" records for the year (SAKJ); EAST SUSSEX (14): Peacehaven, lowest number recorded since 1976 (CRP).

# The Satellite Eupsila transversa (Hufnagel)

Possibly significant record only: ORKNEY ISLANDS (111): North Ronaldsay lighthouse, 14.10 - 25+ (M. Gray per IRL).

# The Brick Agrochola circellaris (Hufnagel)

Possibly significant record only: ORKNEY ISLANDS (111): North Ronaldsay lighthouse, 14.10 - 25+ (M. Gray per IRL).

# Angle Shades Phlogophora meticulosa (Linnaeus)

Possibly significant record only: WEST SUSSEX (13): Hassocks, 10.10 - 53 on shop window (DD); NORTH LINCOLNSHIRE (54): Little Cawthorpe, 9.10 - 150+ (G. Wright per RJ); ORKNEY ISLANDS (111): North Ronaldsay, 14.10 - 50+ )M. Gray per RIL); EAST CORK (H5): Ballynamona Strand, Ballycotton, 9.9 - 47 (M. Tunmore per KGMB).

# Silver Y Autographa gamma (Linnaeus)

See introductory text.

Earliest date: SOUTH HAMPSHIRE (11): Winchester, 12.5 (DHS).

Latest date: DORSET (9): Durleston, 15.12 (per RP).

Selected significant records only: SOUTH DEVON (3): Hope Cove, Plymouth, 5.9 - "a Fuschia hedge approx. 30m long literally shimmered with thousands upon thousands" (VT); Prawle Point 2.9 - 380 (DB2); Scoble, 13.9 - 10,000+; 17.9 - 2000 (DB2); DORSET (9): Durlston, 28.8 - 323; 2.9 - 615; 3.9 - 111; 6.9 - 210; 16.9 - 100; 19.9 - 302; 20.9 - 276 (per RP); Gaunts Common 2.9 - c.500 (PD); Wimborne, 2.9 - 750; 14.9 - 750 (JWF); Portland Bird Observatory, 28.8 - 1457 (MC); SOUTH WILTSHIRE (8): Bishopstone, nr. Salisbury, 17.9 - 170+ (SMP); ISLE OF WIGHT (10): Chale Green, 2.9 - 417 (SC); Freshwater, 3.9 - 300 (SAKJ); West High Down, 31.8, estimated 40,000 per hour coming off the sea moving in an easterly direction, over a period of three and a half hours by day (Colenutt 1992); SOUTH HAMPSHIRE (11); Southsea, 2.9 - 139 (JRL); Sparsholt, 2.9 - 157 (AHD); EAST SUSSEX (14): Beachy Head, 1.9 - "Thousands" by day) P. Wilslon per CRP); Glynde, 1.9 - "Hundreds" by day (B. Fordham per CRP); Peacehaven, 1.9 - 236 (CRP), total for the year = 1321, highest number trapped at locality since 1977 (CRP); SOUTH ESSEX (18): Bradwell, 21.8 - 184; 22.8 - 319; 25.8 -163; 1.9 - 202; 3.9 - 113; 11.9 - 455; 16.9 - 140; 22.9 - 136; 10.10 - 272; 11.10 - 185; 12.10 - 142 (AJD); NORTH ESSEX: Dovercourt, "every garden had tens/hundreds feeding on garden flowers during the day" (C. Gibson per BG2), Irlams Saltmarch/Dunes 9 - "estimated 10,000 along a 500m stretch" (Colchester Nat. Hist. Soc. per BG2); SOUTH-EAST YORKSHIRE (61): Spurn, 25.8 - 300; 1.9 - c.1000 (BS); ORKNEY ISLANDS (111): North Ronaldsay Lighthouse, 14.10 - 400+ (M. Gray per RIL); CHANNEL ISLANDS (113): Guernsey, 10.9 - c.400 (RAA).

#### Initials of recorders

The recorders initials are listed alphabetically so that records can be extracted with relative ease.

AHD	A.H. Dobson	DJW	D.J. Wedd	RAA	R.A. Austin
AJ	A. Jenkins	DY	D. Young	RAS	R.A. Softly
AJH	A.J. Halstead	FHNS	Dr F.N.H. Smith	RB	R. Burridge
AJP	A.J. Pickles	GAC	G.A. Collins	$RB^2$	R. Burt
AJD	A.J. Dewick	GCEF	G.C. Eastwick-Field	RCK	R.C. Kendrick
AP	A. Parrack	GDB	G.D. Best	RET	R.E. Turley
APF	A.P. Foster	GEH	G.E. Higgs	RHM	R.H. Mays
BB	B. Banson	IR	I. Rippey	RIL	R.I. Lorimer
BC	B. Collin	JDP	J.D. Parrack	RJ	R. Johnson
BFS	B.F. Skinner	JEC	J.E. Chainey	RL	R. Leverton
BG	B. Goater	JPB	J.P. Bowdrey	RMc	R. McCormick
$BG^2$	B. Goodey	JRL	J.R. Langmaid	RP	R. Plowman
BLS	B.L. Statham	JTR	J.T. Radford	RRC	R.R. Cook
BS	B. Spence	JW	J. Ward	RWA	R.W. Arthur
CH	C. Hart	JWF	J.W. Fradgley	SAKJ	S.A. Knill-Jones
CCP	C. Penney	KGMB	K.G.M. Bond	SC	S. Colenutt
CRP	C.R. Pratt	KR	K. Redshaw	SD	S. Dewick
CTP	C.T. Pickles	MC	M. Cade	SMP	S.M. Palmer
CWP	C.W. Plant	MFH	M.F. Halsey	SPC	S.P. Clancy
DEW	D.E. Wilson	MJS	M.J. Simmons	ST	S. Tucker
DB	D. Brown	MS	M. Shaffer	TNDP	T.N.D. Peet
$DB^2$	D. Buckingham	MSP	M.S. Parsons	TWH	T.W. Harman
DD	D. Dey	PD	P. Davey	VT	V. Tucker
DH	D. Hipperson	PMP	P.M. Potts	WGK	W.G. Kittle
DHH	D.H. Howton	PPR	P.P. Roper		
DHS	Lt. Col. D.H. Sterling	PQW	P.Q. Winter		

#### Contributors not cited in the text

D.J.L. Agassiz; N. Arnold; G.D. Best; J.F. Burton; J.L. Campbell; C.B. Collins; P. Costen; G. Craine; R.C. Dening; J. Ellis; R. Fairclough; P. Fleming; J.A.C. Greenwood; B.P. Henwood; D.C. Hulme; M.R. Langdon; B.R. Mitchell; R.D. Penhallurick; Mrs S.J. Pettit; S. Pittman; A.M. & D.K. Riley; B.E. Slade; Dr S. Wright.

# Acknowledgements

We would like to take this opportunity to thank all of the above mentioned contributors. We would particularly like to thank D.E. Wilson and P.A. Sokoloff for the initial computerisation of the records and Rev. Dr D.J.L. Agassiz for all his useful comments on the manuscript.

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# Campaea margaritata (L.) ab. rubrociliata Schawerda (Lep.: Geometridae) in south-east London

Since my recent note (1995, Ent. Rec. 107: 282) recording a specimen from here of the Light Emerald with all the fringes red, Mr B.K. West has been good enough to supply the answer to my query as to its identity. He determined the form as that cited above, from an unpublished work by

Goodson and Read at the Natural History Museum, London; the description is "both wings have fringes red", agreeing perfectly with the Charlton moth. It appears to be an uncommon and little-known form, at all events in Britain, as witness the fact that few authors mention it; and to be new to at least the London area. Mr West has examined very large numbers of *margaritata* over the years from his garden moth-trap at Dartford, without finding ab. *rubrociliata*. It would be of interest to know whether others have met with this form. Now that attention has been drawn to it, the aberration may perhaps be found less rarely than hitherto.— A.A. ALLEN, 49 Montcalm Road Charlton, London SE7 8QG.

#### **BOOK REVIEW**

**Dragonflies** by **Peter L. Miller** (with plates by R.R. Askew, figures by Sophie Allington and David Chelmick, a key to larvae by Graham Vick and a key to adults by David Chelmick) – second edition. Naturalists' Handbooks number 7, published for The Company of Biologists Ltd. by The Richmond Publishing Company Ltd., Slough, 1995. 118pp. 4 colour plates. Hardbound – ISBN 0 85546 300 7, price £16.00; paperback – ISBN 0 85546 299 X, price £8.95.

The fact that some 1300 people now belong to the British Dragonfly Society, a group founded as recently as 1983, is an indication of the level of interest in these fascinating insects - approximately the same number as all the members of the London Natural History Society and roughly twice the number of subscribers to the Entomologist's Record! For the many entomologists such as myself, however, for whom dragonflies do not hold the principal interest, and for the general naturalist, there has been something of a vacuum in useful books on the Odonata. Cynthia Longfield's classic work on the subject (Longfield, 1949), has long been out of print and is quite unaffordable when a secondhand copy does surface. Hammond (1983) provided a reasonably priced identification guide but its key to larvae is quite unworkable for many specimens and the book contains precious little on biology or ecology. At the other end of the scale, and from the same publishing stable, Askew (1988) provided an excellent and comprehensive coverage of the entire European fauna but the price of this volume puts it beyond the reach of non-specialists. Most readers of this review will probably possess a copy of The Collins Field Guide (d'Aguilar et al., 1988) but this work covers all of Europe with North Africa and so is necessarily limited in the information it imparts on British species.

However, with Peter Miller's new book the vacuum has apparently been filled. Here at last is an affordable volume that covers just about every aspect

of dragonflies in Britain that I would ever be likely to have an interest in. An introductory chapter covers briefly the topics of evolution, importance to humans, the British dragonfly fauna, field work and the literature. Subsequent chapters deal in greater depth with Eggs and larvae (surely they are nymphs?). Adult life, Flight, Vision (particularly fascinating). Reproductive biology and Guarding and egg-laying. There is very little information that I am likely to require that is not at least mentioned here. Keys to both adults and larvae are then presented, followed by chapters on Dragonfly conservation and recording and Some methods for studying dragonflies. Useful addresses and a bibliography of references and further reading follow. In the Appendices there is an annotated checklist of British species which I regard as especially valuable, allowing me to know at a glance roughly where I might find a particular species and what its status is without having to read through several pages of information which, though helpful, is not immediately required. Appendix 2 gives the Times of appearance of adult British dragonflies. Collecting of dragonflies is touched on briefly and it is suggested that reasonable collecting should not be discouraged since it can lead to an increased interest in dragonfly conservation. Readers are advised to retain voucher specimens for critical species but cautioned against unnecessary collecting of rare species. This seems an excellent and balanced recommendation.

The four coloured plates illustrating adults were executed by R.R. Askew, are evidently culled from his European work already referred to but reproduced at a much smaller size and are thoroughly excellent.

The key to adults seems to work quite well. I ran through known specimens of four species successfully. However, it later dawned on me that the four specimens used were all males. When I subsequently tried to key out an adult female *Sympetrum danae* I got completely stuck at couplet 36, which calls for an examination of the male abdomen. I am not at all sure how females get past this point! Also, I wonder about the reliability of the terminalia drawing of *Lestes sponsa* and *L. dryas* on page 78. The "lower anal appendages" can distort in set specimens of *L. sponsa* rendering them confusing like *L. dryas* and I worry that some erroneous identifications of this very local species may enter the system if careful vetting of records is not carried out.

I have very few known "larvae" to test the keys on but the half dozen or so alcohol-preserved examples that I do possess ran smoothly to the right answer, suggesting that the key works adequately.

I have enjoyed reading this book and find it quite difficult to fault. The reverse numbering of larval instars as F, F-1, F-2 etc is likely to confuse geneticists. The word "exuvia" is used on occasion as a singular form of "exuviae"; this is surely incorrect as "exuviae" is always feminine plural and has no singular form. Naturally, I remain annoyed at the continued omission of Entomologist's Record & Journal of Variation from the otherwise

complete list of journals that publish papers on insect biology, given on page 94; this omission is repeated in every book in the series and it is to be earnestly hoped that the publishers can correct this in the next number. The British Entomological and Natural History Society is absent from the useful addresses on page 95 and this is perhaps another point that the publishers should address. The book is remarkably free from typographical errors although the header seems to have got confused on pages 68 and 69.

The books in this series have all been quite good, but the standard is inevitably raised with each new volume as the producers learn from their mistakes. To those who, like me, are collecting this series I would say don't miss this one; to those who are unfamiliar with the works I say get this one and see what you are missing.

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Colin W. Plant

# Insect collecting in wild places - Zambia, 1965

On 24 January 1965, I was visiting farmers in the north of the Zambian district of Mumbwa. At the end of the road, away on the Kafue river, very far from other farmers and local villages, lay Mswebe tobacco farm, the property of my friend Geoff Wedekind, who collected butterflies. He had been a stockbroker in Johannesburg, but was disillusioned with the rat-race. His main claim to entomological fame was the discovery of *Charaxes cithaeron joanae* Van Someren, the Zambian sub-species of this spectacular Nymphalid, which as you may have guessed, was subsequently named after his wife.

I set some traps in the neighbourhood. However, these produced only a few black males of the *Charaxes etheocles* (Cramer) group. (I have been reminded of this story while re-checking their identifications with Henning's 1989 work *The Charaxinae butterflies of Africa*. Aloe Books, Johannesburg.) I then went up to the house, on top of the hill. Geoff kept a small menagerie of two otters and various antelopes, which wandered freely around the premises. It emerged that he and his wife were away, and the servants were having a holiday.

The house was open and I walked in. Standing behind the bar in the living room was a hartebeeste *Alcelaphus buselaphus*. I asked it for a gin and tonic,

but they are not very intelligent-looking animals. The otters were cavorting around in a boisterous manner. I felt it wise to withdraw.

In those days accommodation presented no problem. I had a Peugeot station-wagon, the back of which would take a full-length camp bed. I could lock myself in and feel secure in most places. I also put a small u.v. lamp, operated from the battery, on the roof. I was liable to be awakened at various times of the night by hordes of hawkmoths hammering on the roof. In the morning, the mosquito nets which I hung over the windows, would be plastered with huge Saturniids and many smaller species – it was fun.

A few days later, Geoff came into my office in Lusaka to discuss some minor business. He was on his way to hospital for some stitches. He showed me his thigh, which had a huge gash from the hip to the knee. It was the otters, he said. They had got over-excited.— TIM DENING, 20 Vincent Road, Selsey, West Sussex PO20 9DQ.

### **BOOK REVIEWS**

A review of the scarce and threatened ethmiine, stathmopodine and gelechiid moths of Great Britain by M.S. Parsons. (UK Nature Conservation, No. 16) 130pp. A4, softback. ISBN 1 873701 64 0. Joint Nature Conservation Committee, 1996. Price £13.40.

This is the second in the series covering the microlepidoptera – the first, covering the Pyralidae, was published in 1994. After a useful introduction the format of the data sheets is described, methods and sources of information identified and the status category definitions and criteria are set out. A summary list, by status, is provided, and compared with the list originally published by the author in 1984 in *A provisional national review of the status of British microlepidoptera*. The bulk of the work is taken up by the accounts of the 83 species included. Each species is treated in a similar fashion with information on name, status, reference to sources for identification, distribution – in some detail – habitat and ecology, comments on status, threats, management and conservation, and published references to the species. After an extensive bibliography there are a number of annexes covering log book numbers and English names, indices to the species, foodplants and place names, and a brief addendum.

Whilst the first volume on the Pyralidae covered what is probably the easiest (but not necessarily easy!) group of the microlepidoptera, few would

argue that the Gelechiidae in particular are amongst the most difficult of groups. This reflects, perhaps, the fact that 83 species are included out of a British list total of 171 (of which around 160 are probably genuine residents or well-established species). Whilst lack of information and records does not automatically mean a species is threatened, it is certainly worth raising the fact so that more targeted research can be undertaken in the future. The author has treated these issues sensibly, and classifies seven species extinct, nine as endangered, five as vulnerable, four as rare, ten as insufficiently known, 14 as indeterminate, two as Notable A, 18 as Notable B, and 14 as Notable. Whilst one could argue with the precise categorisation of some of the species, it is a good working distribution which will enable further refinement before any species appear in the Red Data Book. As is so often the case, when the various threats to species are considered, the most common relate to loss or destruction of habitat and with the microlepidoptera threats from collecting appear to be minimal. The issue of collecting is considered, and it is pleasing to read such a sensible and pragmatic view expressed by the author and, by implication, these must reflect the views of the JNCC.

Whilst the book does not claim to be anything other than a review of the scarcer species, it is packed with information drawn from a wide variety of sources, including hitherto unpublished observations by microlepidopterists. When the *British red data books:* 2 insects was published in 1987, only one species from this group, *Syncopacma vinella*, was included, largely because of our lack of knowledge. We have come a long way since then, and this work is a major contribution to our knowledge of the scarcer microlepidoptera.

Paul Sokoloff

Pterophoridae by Cees Gielis, in P. Huemer, O. Karsholt and L. Lyneborg (eds.) Microlepidoptera of Europe 1. 222pp. 16 pages of colour illustrations; 288 figures. 245 x 170mm; Apollo Books Stenstrup, 1996. ISBN 87 88757 36 6. Price DKK 350.00 (10% discount for subscribers to whole series).

The first volume of this eagerly awaited series deals with the Pterophoridae, a family not yet covered by a published volume of *Moths and butterflies of Great Britain and Ireland*. The series intends to position itself between the monographic (and very expensive) *Microlepidoptera palaearctica* and other regional or local guides. Each volume is intended to cover between 100 and 300 species within the geographic area of Europe west of the former USSR, including the Baltic countries, and where there is sufficient information available, coverage will include adjacent regions of the western Palaearctic such as North Africa, the Mediterranean islands, Turkey and Transcaucasia.

The text begins with historical and general remarks (including line drawings and wing venation), hints on collecting – although not for the early stages, preparation of "genital slides", a key to the European genera, a checklist of species and synonymy, followed by the main systematic section. For each genus and subsequent species there is a list of synonyms, notes on diagnosis – essentially a brief description of the adult, descriptions of the male and female genitalia, a brief note on the European distribution, notes on the biology and where appropriate, general remarks. Each species is illustrated by a colour photograph and clear line drawings of the male and female genitalia. Distribution data is provided by country in a rather crowded table. The work concludes with a bibliography and index to both foodplants and species.

One hundred and thirty-three species are recognised as occurring in Europe. Identification relies on keying out to genus level, and using the colour photographs and descriptions, supplemented by genitalia examination where appropriate. There are no keys to species level, but remarks on separating similar species are given in various parts of the text. Line drawings as a means of identification or differentiation are given in only a very few cases. This is a great shame, because the author published some excellent diagnostic line drawings of the Pterophoridae in his book coauthored with J.H. Kuchlein *Tabellen En Verspreidingsatlas Van De Nederlandse Microlepidoptera* (1982).

The colour plates are very good, although rather closely cropped in the review copy. Even with photographs at 2.5x magnification, separation of similar species is still difficult, and reference to other features is essential for many species. The genitalia illustrations are excellent, both clear and large and with small arrows depicting points of diagnostic significance. Treatment of the early stages and general biology is brief, although there is a colour plate depicting larvae and pupae of six selected species.

Perhaps the most radical aspect of the work is the taxonomic revisions, and not all will agree with the conclusions drawn by the author. As an example, a lively debate has taken place in recent years over the genus *Stenoptila*, particularly the *bipunctidactyla* complex, and much work has been published by French authors such as Gibeaux, Bigot and Picard, with a number of new species described. The majority of these are relegated to ignominious synonymy by the current author. In revising the taxonomy, many new genera have been raised and, surprisingly, many of those described by Tutt in *A natural history of the British Lepidoptera* V and other works have been dusted down and species assigned to them.

There are a number of changes to the British species and, as this work incorporates a major taxonomic revision, it is useful to set out the major changes.

Agdistis meridionalis (Zeller, 1847) (=staticis Mill.)

Crombrugghia Tutt, 1907 laetus Zell.

distans Zell.

Gillmeria Tutt, 1905 pallidactyla Haw and

tetradactyla Linn. 1758 (=ochrodactyla D. & S.)

Stenoptilia aridus (Zeller, 1848) (=gallobritannidactyla Gib.)

Stenoptilia millieridactyla (Bruand, 1861) (=saxifragae Fletch)

Merrifieldia Tutt, 1905 tridactyla Linn. (=fuscolimbatus Dup.)

baliodactylus Zell.

Porrittia Tutt, 1905 galactodactyla D. & S.

Wheeleria Tutt, 1905 spilodactylus Curt.

Pselnophorus Wallengren, 1881 heterodactyla Müll.

Hellinsia Tutt, 1905 carphodactyla Hübn.

chrysocomae Rag.

osteodactylus Zell.

tephradactyla Hübn.

In summary, this book is both a valuable addition to the available works on the Microlepidoptera and a disappointment. We have come to have great expectations of newly published material – for the microlepidoptera identification is perhaps the most important starting point, and as much support as possible is needed for this – keys, diagrams, illustrations, genitalia drawings and hints for separating similar species. Only part of this requirement is met by this book. UK Lepidopterists have a keen interest in the early stages and biology, but this receives only synoptic treatment. In praise of the book, the text is clear – even if the English is a little stilted in places, the illustrations are very good and the price is, for once, very reasonable. It's the best work available on the Pterophoridae, and nobody with an interest in smaller moths should be without it.

Later in 1996 we are promised a volume on the Scythrididae, and we understand work is well under way on the Cosmopterigidae, Crambinae, Evergestinae, Gelechiidae, Momphidae and Scopariinae.

Paul Sokoloff

The Raffles Bulletin of Zoology: An International Journal of South-east Asian Zoology. Published at the rate of one volume per year in two parts (June and November). Sample received for review: volume 43, part 2, pages 289-478, published November 1995. Annual subscription 70 Singapore dollars payable to the National University of Singapore and sent to The Publications Manager, The Raffles Bulletin of Zoology, Department of Zoology, University of Singapore, Kent Ridge, Singapore 119260. ISSN 0217-2445.

A journal concerned with general zoology in south-east Asia may be regarded as an odd item to feature in the review section of a journal concerned primarily with the entomology of Britain and, to an extent, other parts of Europe. However, its inclusion here may be justified on two counts: papers on entomological topics are evidently a regular feature of the publication, and current interest in areas affected by tropical rain forest extends well beyond the scientific community resident in those areas.

The issue sent for review includes fifteen papers on a wide range of zoological topics and of these, three are concerned with insects. Lanna Cheng's and Patricia Holdway's paper on "Populations of Halohates (Hemiptera: Gerridae) across two oceans" is an account of sampling this bug from the water surface on a voyage from Plymouth here in England to Sydney in Australia, via the Panama Canal. Halobates is the only insect genus to have overcome the obstacles of a pelagic existence on the open ocean and the paper makes interesting reading – even to a lepidopterist! T.C. Narendran and D. Kovac write on "A new species of *Tetramesa* Walker (Hymenoptera: Eurytomidae) associated with bamboo in West Malaysia". Looking at the excellent photographs accompanying the paper I am now wondering if this explains the emergence holes in some of the bamboos I have holding up the runner beans in the garden? Finally, for insects, Damir Kovac and C.M. Yang write on "A new species of Emesopsis Uhler (Hemiptera: Reduviidae) from Peninsular Malaysia". This is another species that appears to be associated with bamboo and again the photographs (which include some scanning electron micrographs) are excellent.

Much of the rest of the journal seems to be concerned with descriptions of new species of various animals including one, which particularly caught my eye, describing a new ray (Pisces: Rajiformes) of which the Holotype was purchased by the author from a fishmonger's stall in Oman!

This is a high quality journal, printed on good quality paper and illustrated with both monochrome and colour plates and is doubtless worth every Singapore cent of its price. It claims to cover English language material on systematics, faunistics, ecology and other aspects of "whole animal" biology in tropical south-east Asia and is evidently a successor to *The Bulletin of the Raffles Museum* (1928-1960) and *Bulletin of the National Museum of Singapore* (1961-1970). It will not appeal to all readers of the *Entomologist's Record* but for those with a passing interest in tropical areas in general and south-east Asia in particular it is likely to be invaluable reading.

Colin W. Plant

# My aunt, uncle and two rare hawkmoths

In late July or August 1953, my Uncle Tom's wife saw a large, dark-green hawkmoth on a greengrocer's shop window in Stoke Newington, north London. She ran off to fetch a receptacle to put it in but on her return it had gone.

I showed her pictures of a Lime Hawkmoth *Mimas tiliae* Linn. but she observed ". . . larger and darker green"; on showing her a picture of an Oleander Hawkmoth *Daphnis nerii* Linn. her immediate reaction was "that was it . . .". Many years later I was interested to note that in B.F. Skinner's *Colour Identification Guide to Moths of the British Isles* it is mentioned that ". . . the maximum reported was 13 in 1953". Plant (1993, *Larger Moths of the London Area*. LNHS) lists two other London records for this species in 1953, from Earls Court and South Kensington, both during July.

On 20 July 1995 Uncle Tom was in his garden at Bexhill-on-Sea, Sussex; towards dusk he went over to the hedge to investigate a strange humming noise and found an Oleander Hawkmoth vibrating its wings, prior to evening flight. Uncle Tom is a good general naturalist and, like my father, has for a long time been interested in Lepidoptera.

Has anyone else an aunt and uncle who separately have seen British Oleander Hawkmoths!?—MICHAEL BRITTON, 38 Meadlands, York YO3 0PB.

# Possible second brood in *Erebia palarica* Chapman 1905 (Lep.: Satyridae)

Higgins and Riley (A Field Guide to the Butterflies of Britain and Europe, 4th Edition, 1980) give the flight period for Chapman's Ringlet Erebia palarica Chapman 1905 as "End June/July" and in some localities the main flight frequently occurs in late July. On 6.ix.1987 my parents caught three specimens of this butterfly on roadside heathland at an altitude of 1400 metres near Cofinal in the Picos de Europa of the Cantabrian Mountains (Leon Province, Northern Spain). The weather conditions were recorded as hot and sunny with no cloud and a light wind. These specimens, in good condition, seem to indicate that this species possibly has a second brood. Earlier in the summer the weather in the Picos de Europa had been very hot with very low snow levels, but interspersed with prolonged periods of rain and mist. However, no European Erebia species has been known to produce a second brood in the wild and local microclimates can result in delayed or protracted emergences. On the other hand, how many collectors wander around in the mountains this late in the season?- MARTIN ELLIS, 14 Great Ostry, Shepton Mallet, Somerset BA4 5TT.

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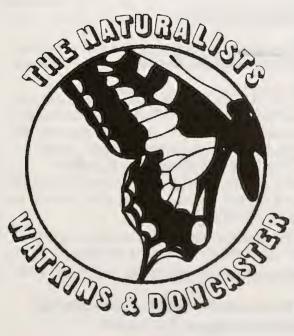
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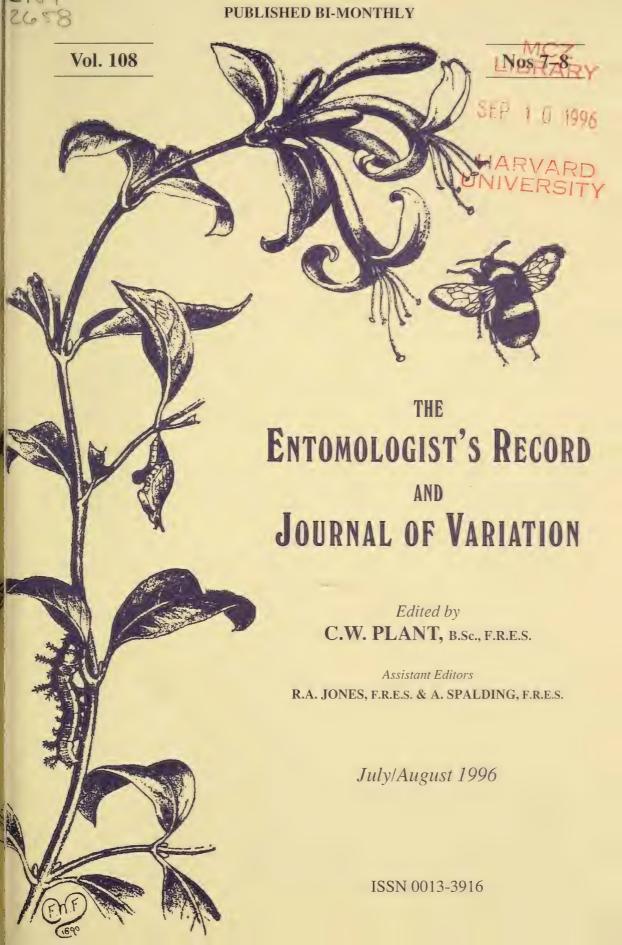
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# THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

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#### MICROLEPIDOPTERA REVIEW OF 1994

DAVID J.L. AGASSIZ<sup>1</sup>, ROBERT J. HECKFORD<sup>2</sup> AND JOHN R. LANGMAID<sup>3</sup>

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TWO RESIDENT SPECIES were added to the British fauna during 1994, *Ectoedemia amani* Svensson was taken as an adult by Barry Dickerson in Huntingdonshire; it may be more widespread, but like most bark miners is not easy to find in the larval state. *Caryocolum blandelloides* Karsholt was only described in 1981 from the eastern Danish island of Bornholm; it is very interesting that it has been found in a remote part of Scotland by Robert Hoare. Depending on whether or not you regard the Channel Isles as part of Britain, *Evergestis limbata* (L.) which we reported from Guernsey in 1990 could be counted as a third addition; to refer to the Isle of Wight as mainland Britain may seem a little strange to those islanders, but we hope the distinction from the Channel Isles clarifies the meaning.

Whilst it is not a new species, the first generation f. one ratella Zeller of C. falconipennella (Hübner) could pass for one and it is remarkable that this should never have been noted in the British Isles before.

It is worth drawing the attention of readers to some rare species in the systematic list: Bankesia douglasii (Stainton), after brief appearances in Kent and Yorkshire, has now turned up again close to its original site in Hampshire. Elachista eskoi Kyrki & Karnoven is still known only from a small number of specimens, as is Eucosma metzneriana (Treitschke) which is now represented by single captures at five scattered localities. Aplota palpella (Haworth), Cydia illutana (Herrich-Schäffer), Mecyna flavalis (Denis & Schiffermüller) and Salebriopsis albicilla (Herrich-Schäffer) in fresh localities are particularly noteworthy. An extension of the known range of species is especially remarkable when they are recorded in another country in the British Isles, and Stigmella svenssoni (Johansson) in Ireland, Phyllonorycter strigulatella (Lienig & Zeller), Swammerdamia compunctella Herrich-Schäffer in Wales and Elachista utonella (Frey) in Scotland are such examples.

As usual there are further records of recently discovered species: Mompha bradleyi Riedl and Cochylis molliculana Zeller; Athrips rancidella (Herrich-Schäffer) and Gelechia senticetella Staudinger becoming more firmly established in the home counties. Spreading species continue, notably Blastobasis lignea Walsingham, B. decolorella Wollaston and even Tachystola acroxantha (Meyrick) (assigned to a new genus) has ventured further from its base in the south-west.

New information on the biology of species is increasingly difficult to find in Britain, but data are presented about *Piercea luridana* (Gregson), and other interesting foodplant records are listed in the systematic section.

Migration records will be included in other articles in this journal, the chief species of interest in this category below is *Euchromius ocellea* (Haworth).

Literature published since our last Review includes Volume 9 of Microlepidoptera Palaearctica which covers half of the Pterophoridae by Ernst Arenberger. As usual in this series the text is in German and the price very high, despite production errors. This publication was closely followed by the first in a new series on Microlepidoptera of Europe, also on the Pterophoridae, by Cees Gielis. In this volume the whole family is treated, although briefly, in English, and at a more reasonable price. For those who scan the European literature there is a series Die Lepidopterenfauna der Rheinland und Westfalens, and the Momphidae by Sjaak Koster, 1994, is illustrated by good colour photographs and genitalia drawings. In the series Die Tierwelt Deutschlands "Flachliebmotten (Depressariidae)" 1995 by H.-J. Hannemann includes all species known from Britain. Another well illustrated book, on Pyralidae, by F. Slamka is Die Zünslerfalter (Pyraloidea) Mitteleuropas. An Irish microlepidoptera check list by Ken Bond was published in Bull. Ir. biogeog. Soc. 18: 176-262. This collates the references to additions to the Irish fauna published since Beirne's 1941 list, using the nomenclature and arrangement of the 1985 Danish checklist by Schnack; there are some useful notes on species doubtfully recorded. A list of the Lepidoptera of Shetland, including microlepidoptera, was published in 1995 by the Shetland Entomological Group, compiled by Mike Pennington; this includes some dozen new Shetland records made in 1994 which are not repeated in the systematic section below. A review of the scarce and threatened ethmiine, stathmopodine and gelechiid moths of Great Britain by M.S. Parsons, published by JNCC is a most useful compilation of data with an assessment of the status of each species treated. As usual an important source of records is the report of the Annual Exhibition in the British Journal of Entomology and Natural History 8: 188-194 from which only new vice-county records and others of special note are included in this article.

The full systematic list which follows includes records submitted by recorders and those which have been published in entomological journals. Many thanks to those whose records are included, as always these are identified by their initials: D.J.L. Agassiz, M.V. Albertini, B.R. Baker, H.E. Beaumont, K.P. Bland, K.G.M. Bond, the late E.S. Bradford, K. Cooper, M.F.V. Corley, P.A. Crowther, A.M. Davis, B. Dickerson, A.M. Emmet, R.G. Gaunt, B. Goater, M.W. Harper, R.J. Heckford, D. Hipperson, R.J.B. Hoare, D.H. Howton, J.R. Langmaid, D.V. Manning, D. O'Keeffe, S.A.

Knill-Jones, S.M. Palmer, M.S. Parsons, C.W. Plant, J. Robbins (Porlock), A.N.B. Simpson, B.F. Skinner, R.A. Softly, P.A. Sokoloff, M.J. Sterling, P.H. Sterling & M.R. Young. The initials SEFM refer to the Scottish Entomologists' Field Meeting which comprised KPB, MWH, R.P. Knill-Jones, JRL, R.M. Palmer, ANBS, P. Waring and MRY. RIS is the Rothamsted Insect Survey.

Journal titles are abbreviated for economy of space: Ent. Gaz. for the Entomologist's Gazette, Ent. Rec. for the Entomologist's Record and Journal of Variation, and BJENH for the British Journal of Entomology and Natural History. Numbers in the left-hand column are those from A checklist or label list of British Lepidoptera by J.D. Bradley & D.S. Fletcher (1986).

Again an attempt has been made to identify new vice-county records; these are underlined and in **bold** type. The maps held by A.M. Emmet have been used for this purpose and we are grateful to Maitland Emmet for providing this information.

Many records which do not constitute new vice-county records have been excluded; copies of the full list of records submitted are available from David Agassiz.

### **Systematic List**

#### **MICROPTERIGIDAE**

4 *Micropterix aruncella* (Scop.) – Llangynog (<u>44</u>) a few 13.vi.94; Listerlin (<u>H11</u>) one 14.vi.94 – AME & JRL

#### **ERIOCRANIIDAE**

- 6 Eriocrania subpurpurella (Haw.) Templenoe (<u>H1</u>) vacated mines on oak 18.vi.94 AME & JRL; Dunragit (<u>74</u>) vacated mines vii.94 AME, Ent. Rec. 107: 7
- 9 E. sparrmannella (Bosc) Shin Valley (<u>107</u>) one tenanted mine on Betula 10.viii.94; Armadale, Bettyhill (108) many tenanted mines on Betula 11-13. viii.94 SEFM
- 10 E. saleopiella (Staint.) Copthorne (14) a few 26.iv.94 MSP & JRL

#### **NEPTICULIDAE**

- 23 Ectoedemia argyropeza (Zell.) Skaill (<u>108</u>) early mines in petioles of *Populus tremula* 10-12.viii.94 SEFM
- 34 E. occultella (Linn.) Armadale, Bettyhill (<u>108</u>) a few tenanted mines on Betula 12-13. viii.94 SEFM
- 35 E. minimella (Zett.) Shin Valley (<u>107</u>) a few tenanted mines on Betula 14.viii.94 SEFM
- 41a *E. amani* Svensson Waresley Wood (<u>31</u>) 12.vii.94 BD, *Ent. Rec.* **107**: 163-164, **New to Britain**
- 43 Fomoria weaveri (Staint.) Shin Valley (<u>107</u>) old mine in Vaccinium vitis-idaea 14.viii.94 SEFM
- 64 Stigmella continuella (Staint.) Carnghowan (<u>88</u>) 10.ix.94; Knapdale (<u>101</u>) 21.ix.94 KPB, Ent. Rec. <u>107</u>: 253-254

- 68 S. salicis (Staint.) Shin Valley (<u>107</u>) a few vacated mines on Salix aurita 14.viii.94 – SEFM
- 72 S. myrtillella (Staint.) Shin Valley (<u>107</u>) many tenanted mines on Vaccinium myrtillus 14.viii.94 SEFM
- 75 S. floslactella (Haw.) Shin Valley (<u>107</u>) a few vacated mines on Corylus 10-14.viii.94 SEFM
- 78 S. incognitella (Herr.-Schäff.) Ramsey Heights (<u>31</u>) 16.x.94 D. Evans per BD
- 79 S. perpygmaeella (Doubl.) Kilgarvan (<u>H1</u>) one tenanted mine on Crataegus 19.vi.94 AME, PHS & JRL
- 84 S. ruficapitella (Haw.) Parton (<u>73</u>) one vacated mine AME Ent. Rec. **107**: 8
- S. svenssoni (Joh.) Gearagh (<u>H3</u>) mines on *Quercus robur* 31.viii.94 KGMB [Note by AME: This species has not previously been included in the Irish list since its presence is supported solely by vacated mines which are, however, distinctive. Prior records supported by mines in AME herbarium are: Ballinahinch (<u>H16</u>) 29.viii.69; Killarney (<u>H2</u>) 5.viii.74; Knockmealdown Mts (<u>H6</u>) 8.x.76; Clogheen (<u>H7</u>) 8.x.76; Mid-Cork (<u>H4</u>) 1981 KGMB]
- 89 S. basiguttella (Hein.) Uffington (40) a few old mines in fallen leaves of Quercus robur, 25.xii.94 – JRL
- 94 S. spinosissimae (Waters) Ardwell (<u>74</u>) vacated mines vii.94 AME, Ent. Rec. **107**: 8
- 101 S. pyri (Glitz) Exeter (3) one bred from Pyrus pyraster collected 8.ix.93 RJBH, BJENH 8: 190
- 104 *S. magdalenae* (Klimesch) Loch Tool (<u>73</u>) one vacated mine on *Sorbus aucuparia* vii.94 AME, *Ent. Rec.* **107**: 8

#### **INCURVARIIDAE**

- 129 *Incurvaria pectinea* Haw. Buxton Heath (<u>27</u>) 24.v.94 DH

#### HELIOZELIDAE

- 157 *Heliozela hammoniella* (Sorh.) Shin Valley (<u>107</u>) one vacated mine and cut-out on *Betula* 14.viii.94 SEFM
- 158 Antispila metallella ([D. & S.]) Yardley Chase (<u>32</u>) 9.viii.94 DVM

#### **PSYCHIDAE**

- 182 *Bankesia douglasii* (Staint.) Fareham (11) 20.iii.94 R.J. Dickson, *Ent. Rec.* **107**: 202-203
- 195 Sterrhopterix fusca (Haw.) Holme Fen (31) 30.v.94 BD

#### TINEIDAE

- 196 *Morophaga choragella* ([D. & S.]) Litcham (<u>28</u>) 9.vii.94 P.G. Cardy per DH
- 200 Psychoides filicivora (Meyr.) Tunbridge Wells (16) xi.94 I.C. Beavis, Ent. Rec. 107: 156

- 212 Haplotinea insectella (Fabr.) Hilton Village (31) 6.viii.94 BD
- 219 Nemapogon ruricolella (Staint.) Charborough Park (2) bred from larvae in Stereum hirsutum collected 28.iv.94 PHS, BJENH 8: 194
- 230 *Monopis crocicapitella* (Clem.) Cockayne Hatley (<u>30</u>) 24-30.ix.94 I. Woiwod per DVM
- 240 Tinea pellionella (Linn.) Woodwalton Fen (31) vii.78 J. Day per BD

#### **OCHSENHEIMERIIDAE**

- 252 Ochsenheimeria urella F.v.R. Armadale, Bettyhill (<u>108</u>) a few 12-13.viii.94 – SEFM
- 253 *O. vacculella* F.v.R. Porlock (<u>5</u>) 7.vii.90 JR

#### LYONETIIDAE

- 254 Leucoptera laburnella (Staint.) Collielyal (<u>108</u>) tenanted mines on Laburnum 11.viii.94 SEFM
- 255 L. wailesella (Staint.) Cockayne Hatley (<u>30</u>) 16-22.vii.94 I. Woiwod per DVM

#### BUCCULATRICIDAE

- 267 Bucculatrix maritima Staint. Porlock salt-marsh (<u>5</u>) cocoon on stem of Juncus gerardii 15.vi.92, moth bred JR
- 271 B. albedinella Zell. Porlock (5) mines on Ulmus glabra 20.ix.89 JR

#### **GRACILLARIIDAE**

- 281 Caloptilia populetorum (Zell.) Richmond Park (17) 6.viii.94 MSP; Fineshade (32) 23-29.iv.94 DVM (RIS)
- 282 *C. elongella* (Linn.) Glengarriff (<u>H3</u>) spinnings on *Alnus glutinosa* 15.vi.94; Templenoe (<u>H1</u>) mines and spinnings on *Alnus* 18.vi.94 AME & JRL; Shin Valley (<u>107</u>) many vacated spinnings and some cocoons on *Alnus glutinosa* 10-14.viii.94 SEFM
- 283 *C. betulicola* (Hering) Glengarriff (<u>H3</u>) one mine and spinning on *Betula* 15.vi.94 AME & JRL; Templenoe (<u>H1</u>) mines and spinnings on *Betula* 18.vi.94 AME & JRL
- 284 C. rufipennella (Hübn.) Porton Down (8) spinnings on Acer pseudoplatanus 3.x.94 RJBH & JRL; Castle Ashby (32) 23.viii.94 DVM
- 285 C. azaleella Brants Tunbridge Wells (<u>16</u>) xi.94 I.C. Beavis, Ent. Rec. **107**: 156; Saffron Walden (<u>19</u>) at m.v. 13.viii.94 AME
- 287 C. robustella Jäckh Larva on Castanea sativa JMC-H, Ent. Rec. 106: 160
- 288 C. stigmatella (Fabr.) Shin Valley (107) a few vacated spinnings and cocoons on Populus tremula 14.viii.94 SEFM
- C. falconipennella (Hübn.) Kilgarvan (<u>H1</u>) a few mines and folds 19.vi.94 AME, PHS & JRL; Petts Wood (16) f. oneratella Zell. one 20.vii.93 and six 9.vii.-5.viii.94, a distinct first generation form not previously recorded in Britain DO'K; Medmenham, Marlow (<u>24</u>) mines 10.x.94, also Twyford and Lower Earley (<u>22</u>), Henley-on-Thames (<u>23</u>) and Eversley (<u>12</u>) I. Sims, BJENH 8: 193

- 293 *C. syringella* (Fabr.) Templenoe (<u>H1</u>) spinnings on *Fraxinus* 18.vi.94 AME & JRL
- 296 Calybites phasianipennella (Hübn.) Fineshade (<u>32</u>) 1994 DVM (RIS)
- 310 Callisto denticulella (Thunb.) Castle Kennedy (<u>74</u>) mines on Malus vii.94 AME. Ent. Rec. 107: 8
- 316 *Phyllonorycter roboris* (Zell.) Enniskerry (H20) mines on *Quercus petraea* 2.ix.94, moths bred KGMB
- 318 *P. tenerella* (Joann.) Farcet (<u>31</u>) 13.x.94 BD
- 321 *P. messaniella* (Zell.) Castle Kennedy (<u>74</u>) mines abundant on *Quercus ilex* AME *Ent. Rec.* **107**: 8
- 322a *P. leucographella* (Zell.) Atherstone (<u>38</u>) 30.xii.94 J. Robbins per AME
- 324 *P. sorbi* (Frey) Dunragit (<u>74</u>) mines on *Sorbus aucuparia* vii.94 AME, *Ent. Rec.* **107**: 8
- 326 P. blancardella (Fabr.) Norwich (27) 30.viii.87 DH
- 330 *P. cerasicolella* (H.-S.) Porlock (<u>5</u>) tenanted mines on *Prunus avium* 6.vii.92, moths bred JR
- P. corylifoliella (Hübn.) Shin Valley (<u>107</u>) many mines on Betula 14.viii.94 SEFM; Muckross (<u>H2</u>) two mines on Betula pendula 1.xii.94 KGMB; Threave Castle (<u>73</u>) mine on Malus vii.94 AME, Ent. Rec. <u>107</u>: 8
- 335 *P. salicicolella* (Sirc.) New Galloway (<u>73</u>) mine on *Salix cinerea* vii.94, moth bred AME, *Ent. Rec.* **107**: 8
- 336 *P. dubitella* (H.-S.) Cockayne Hatley (<u>30</u>) vii.92 I. Woiwod per DVM
- 337 *P. hilarella* (Zett.) Ben Hiel (<u>108</u>) early mines on *Salix* sp. 7-14. viii.94 SEFM
- 339 P. ulicicolella (Staint.) Porlock (5) beaten Ulex 15.vi.93 JR
- *P. strigulatella* (L. & Z.) Gordano Valley (<u>6</u>) many mines on *Alnus incana* 17.vii.94, moths bred DJLA & JRL; Cardiff (<u>41</u>) mines xi.94, moths bred xi.94 an unusual emergence date D.J. Slade & M.R. Wilson, *BJENH* 8: 158, New to Wales
- 345 *P. rajella* (Linn.) Shin Valley (<u>107</u>) one mine on *Alnus glutinosa* 10.viii.94 SEFM; Kirkcowan; Castle Kennedy (<u>74</u>) mines on *Alnus* vii.94 AME, *Ent. Rec.* **107**: 8
- 347 *P. anderidae* (Fletch.) Malmsmead (<u>4</u>) tenanted mines on *Betula* 11.x.93, moths bred JR
- 354 *P. emberizaepenella* (Bouché) Shin Valley (<u>107</u>) one mine on *Lonicera* 10.viii.94 SEFM; Wicken Fen (<u>29</u>) mines on *Symphoricarpos* 11.x.94, moths bred AME & JRL

#### **CHOREUTIDAE**

387 *Prochoreutis sehestediana* (Fabr.) – Tretio Common (<u>45</u>) 13.vii.94 – A.P. Foster, *BJENH* **8**: 189

#### **GLYPHIPTERIGIDAE**

391 *Glyphipterix simpliciella* (Steph.) – Listerlin (<u>H11</u>) a few 14.vi.94 – AME & JRL; Tongue, Bettyhill (<u>108</u>) a few 10-13.viii.94 – SEFM

- 392 G. schoenicolella Boyd Kilgarvan (H1) one 19.vi.94 AME, PHS & JRL
- 397 G. thrasonella (Scop.) Notes on the species A.R. Spalding, Ent. Rec. 106: 184-185

#### **YPONOMEUTIDAE**

- 406 Argyresthia abdominalis Zell. Porton Down (8) one at m.v. 23.vii.94 JRL
- 407 A. dilectella Zell. Studham (30) 13.vii.94 C. Baker per DVM
- 413 A. sorbiella (Treits.) Templenoe (H1) one 18.vi.94 AME & JRL
- 418 A. conjugella Zell. Holywood (72) at m.v. vii.94 AME, Ent. Rec. 107: 9
- 428 *Yponomeuta rorrella* (Hübn.) Oundle (<u>32</u>) vii.88 S. Chesser, *Ent. Rec.* **102**: 117
- 434 Kessleria saxifragae (Staint.) Invernaver NNR (<u>108</u>) 8.viii.94 KPB, BJENH 8: 188
- 436 *Pseudoswammerdamia combinella* (Hübn.) Listerlin (<u>H11</u>) one 14.vi.94; Ahakista (<u>H3</u>) several 14-20.vi.94; Kilmeadan (<u>H6</u>) one 21.vi.94 – AME & JRL
- 438 Swammerdamia pyrella (Vill.) Kilgarvan (<u>H1</u>) larvae on Crataegus 19.vi.94 AME, PHS & JRL
- 439 S. compunctella H.-S. Merthyr Tydfil (41) 22.vi.25 & 25.vi.26 G. Fleming collection D.J. Slade, BJENH 8: 112, New to Wales
- 441 *Paraswammerdamia lutarea* (Haw.) Holywood (<u>72</u>); Bargrennan (<u>74</u>) at m.v. vii.94 AME, *Ent. Rec.* **107**: 9
- 447 Roeslerstammia erxlebella (Fabr.) Porlock (5) 5.v.93 JR
- 452 *Ypsolopha nemorella* (Linn.) Yardley Chase (<u>32</u>) 4.vi.89 G.E. Higgs per DVM
- 460 Y. parenthesella (Linn.) Shin Valley (<u>107</u>) a few 10-14.viii.94; Skaill (<u>108</u>) one 12.viii.94 SEFM
- 465 Plutella porrectella (Linn.) Norwich (27) 10.viii.92 DH
- 469 Eidophasia messingiella (F.v.R.) Salcey Forest (<u>32</u>) 23.vi.90 G.E. Higgs per DVM; Milton Keynes (24) 29.vi.94 MVA

#### **EPERMENIIDAE**

- 482 Epermenia insecurella (Staint.) Notes on its occurrence in Wiltshire (8) SMP, Ent. Rec. 107: 174; Portland (9) larvae on Thesium humifusum 24.vi.94, moths bred RJH
- 483 E. chaerophyllella (Goeze) Bosherton (45) a few larvae on Angelica 13.vi.94 AME & JRL; Threave (73); Dunragit (74) vii.94 larvae on Heracleum AME, Ent. Rec. 107: 9

#### COLEOPHORIDAE

- 498 *Coleophora alnifoliae* Barasch Gordano Valley NNR (<u>6</u>) one case on *Alnus incana* 17.vii.94 DJLA & JRL
- C. lusciniaepennella (Treits.) = viminetella Zell. Invernaver, Skaill (<u>108</u>) larval feedings on Salix and Myrica 10-12.viii.94 SEFM; Lough Abisdealy (H3) cases on Myrica 11.v.94; Ballyvergan (<u>H5</u>) cases on Myrica 14.v.94 KGMB; Lytham St. Annes (60) 25.v.94 larvae feeding on Salix repens SMP, Ent. Rec. **107**: 202

- 517 *C. frischella* (Linn.) Herne Bay (<u>15</u>) 11.viii.84 N.F. Heal, *Ent. Rec.* **107**: 187
- 518 C. mayrella (Hübn.) Alveston (57) 27.vi.94 I. Travers-Ayre per KC
- 519 *C. deauratella* L. & Z. Minehead (<u>5</u>) 2.vii.94 JR
- 522 C. lineolea (Haw.) Alveston (<u>57</u>) 1.vii.94 I. Travers-Ayre per KC
- 524 *C. lithargyrinella* Zell. Porlock (<u>5</u>) cases on *Stellaria holostea* 10.v.93, moths bred JR
- 526 C. laricella (Hübn.) Loch Trool (73) larval feeding on Larix vii.94 AME, Ent. Rec. 107: 9
- 547 C. discordella Zell. Armadale, Bettyhill (<u>108</u>) a few 10-13.viii.94 SEFM
- 552 C. lassella Stdgr. Liss Ard (H3) one 10.v.94 KGMB
- 559 C. peribenanderi (Toll) Holywood (72) at m.v. AME, Ent. Rec. 107: 9
- 561 C. therinella Tengst. Weaveley Wood (31) 7.vii.90 BD
- 565 C. saxicolella (Dup.) Tongue (<u>108</u>) many cases on Atriplex sp. 14.viii.94. one moth bred, genitalia det. SEFM
- 568 C. versurella Zell. Thetford (<u>28</u>) a few cases on Chenopodium album, 11.x.94, moths bred AME & JRL
- 574 *C. deviella* Zell. Shellness (15) 21.viii.83 N.F. Heal, *Ent. Rec.* **107**: 43 & 131
- 574a *C. aestuariella* Bradley Harty (16) 3.x.81, description of cases N.F. Heal, *Ent. Rec.* **107**: 184
- 581 *C. taeniipennella* H.-S. Kilgarvan (<u>H1</u>) one 19.vi.94 AME, PHS & JRL; Yateley (<u>12</u>) cases on *Juncus acutiflorus* 23.ix.94 JRL
- 582 C. glaucicolella Wood Arlington (<u>14</u>) larval cases on *Juncus* conglomeratus, 26.iv.94 MSP & JRL; Turner's Rock (<u>H3</u>) one 15.vi.94 AME & JRL
- 583 *C. tamesis* Waters Sparkhill, Birmingham (<u>37</u>) cases 10.ix.93, moths bred ANBS, *BJENH* **8**: 192
- 586 *C. adjunctella* Hodgk. Porlock salt-marsh (<u>5</u>) many over *Juncus gerardii* 13.vi.94 JR
- 589 C. clypeiferella Hofm. Weymouth (2) 3.viii.94 PHS, BJENH 8: 194

#### **ELACHISTIDAE**

- 595 *Elachista biatomella* (Staint.) Cockayne Hatley (<u>30</u>) 13-19.viii.94 I. Woiwod per DVM
- 598a *E. eskoi* Kyrki & Karv. A review and description of female MWH, *Ent. Gaz.* **46**: 233-236
- 604 E. orstadii Palm Williamshope, Glen Kinnon (<u>79</u>) 29.v.94 KPB, BJENH 8: 188
- 606 E. humilis Zell. Glengarriff (<u>H3</u>) larvae on *Deschampsia cespitosa* 15.vi.94, moths bred AME & JRL; Aird (<u>74</u>) common vii.94 AME, Ent. Rec. **107**: 9
- 607 E. canapennella (Hübn.) Invershin (107) a few 14.viii.94 SEFM
- 622 E. adscitella Staint. = revinctella sensu auctt Glengarriff (<u>H3</u>) larvae on Deschampsia cespitosa 15.vi.94 AME & JRL
- 623 E. bisulcella (Dup.) Glengarriff (<u>H3</u>) larvae on *Deschampsia cespitosa* 15.vi.94, moths bred AME & JRL; Grafham Water (31) 26.viii.94 BD

- 624 Biselachista trapeziella (Staint.) West Porlock Wood (<u>5</u>) larva on Luzula pilosa 10.vi.92, moth bred JR
- 628 B. eleochariella (Staint.) Tarn north of Mochrum Loch (<u>74</u>) AME, Ent. Rec. 107: 9
- 629 B. utonella (Frey) Kincraig (<u>96</u>) larvae in Carex vesicaria 21.vi.94, moths bred vii.94 MWH, Ent. Gaz. 46: 266, new to Scotland
- 632 *Cosmiotes consortella* (Staint.) Cockayne Hatley (<u>30</u>) vii.90 & ix.93 I. Woiwod per DVM

#### **OECOPHORIDAE**

- 649 Esperia sulphurella (Fabr.) Listerlin (H11) two 14.vi.94 AME & JRL
- 653 Aplota palpella (Haw.) West Bromwich (<u>39</u>) 25.vii.94 M.G. Bloxham, Ent. Rec. **107**: 46
- 656 Tachystola acroxantha (Meyr.) Portsmouth (11) one at m.v. 1.vii.94 M.T.M. Roberts per JRL, Ent. Gaz. 46: 140
- 665 Dasystoma salicella (Hübn.) Branscombe (3) two bred from larvae on Prunus spinosa collected 18.ix.93 RJBH, BJENH 8: 190
- 673 Depressaria pimpinellae Zell. Porton Down (8) one in Rothamsted trap, late summer 1994 Fineshade (32) 19-22.viii.94 DVM (RIS)
- 677 D. douglasella Staint. Wellow (6) one larva on Torilis japonica 29.v.94, moth bred AME & JRL, Ent. Gaz. 45: 254
- 678 D. weirella Staint. Bettyhill (108) a few 10-13.viii.94 SEFM
- 686 Exaeretia ciniflonella (L. & Z.) Camghouran, Rannoch (88) 10.ix.94 KPB, BJENH 8: 188
- 689 Agonopterix ciliella (Staint.) Templenoe (<u>H1</u>) larvae on Angelica 18.vi.94 AME & JRL
- 695 A. alstromeriana (Clerck) Paxton (<u>73</u>) reared from Conium vii.94 AME, Ent. Rec. **107**: 9
- 699 *A. bipunctosa* (Curt.) Milton Hide, Arlington (<u>14</u>) many larvae on *Serratula*, 27.v.94 moths bred MSP, AME & JRL
- 700 A. pallorella (Zell.) Porton Down (12) larvae on Centaurea scabiosa 24.vii.94, moths bred, first Hants record for over 30 years JRL
- 702 A. assimilella (Treits.) Shin Valley (<u>107</u>) one 14.viii.94 SEFM; Bargrennan (<u>74</u>) at m.v. vii.94 AME, Ent. Rec. <u>107</u>: 9
- 706 A. nervosa (Haw.) Strathnaver (<u>108</u>) one 10.viii.94 SEFM
- 713 A. angelicella (Hübn.) Weaveley Wood (<u>31</u>) 27.vii.94 BD
- 718 Ethmia dodecea (Haw.) Porlock (5) 24.vii.94 JR
- 719 E. funerella (Fabr.) Biggleswade (30) 1994 R. Revels per DVM
- 720 E. bipunctella (Fabr.) Southsea (11) one at m.v. 31.vii.94 JRL

#### **GELECHIIDAE**

- 730 *Apodia bifractella* (Dup.) Potteric Carr, Doncaster (<u>63</u>) reared vii.94 from seedheads of *Inula conyza* R.I. Heppenstall per HEB
- 731 Eulamprotes atrella ([D. & S.]) Great Bookham Common (17) 21.vii.94 MSP; Liss Ard (H3) one 29.vii.94 KGMB
- 734 Argolamprotes micella ([D. & S.]) Porlock (5) 1.viii.94 JR; Lyme Regis (9) 8.vii.94 at light RJH & B.P. Henwood

- 735 Monochroa tenebrella (Hübn.) Ferrybank (H11) one 28.v.94 KGMB
- 736 M. lucidella (Steph.) Pucketty, Faringdon (22) 13.vii.94 MFVC, BJENH 8: 189
- 740 M. hornigi (Staud.) Portsmouth (11) one at m.v. 8.vii.94 JRL
- 742 M. lutulentella (Zell.) Weaveley Wood (31) 10.vi.90 BD
- 746 Chrysoesthia drurella (Fabr.) Tresco, Isles of Scilly (1) one bred 11.vi.94 from mines on Chenopodium album collected 20.ix.93 JRL
- 749 Sitotroga cerealella (Olivier) Badgers Mount (<u>16</u>) in a garden centre 10.vii.94 PAS, Ent. Rec. 107: 14
- 752 *Aristotelia ericinella* (Zell.) Holme Fen (<u>31</u>) 30.viii.1879 A.H. Ruston per BD
- 761a *Athrips rancidella* (H.-S.) Richmond Park (<u>17</u>) 15.vii.94; Raynes Park (17) 7,12,15.vii.94 MSP, *Ent. Rec.* **106**: 232
- 762 A. mouffetella (Linn.) Soke of Peterborough (<u>32</u>) D.H. Howton, BJENH 8: 190
- 771 *Teleiodes alburnella* (Zell.) Soke of Peterborough (<u>32</u>) D.H. Howton, *BJENH* **8**: 190
- 777 Bryotropha basaltinella (Zell.) Hilcot End (<u>33</u>) 2.vii.94 MSP
- 779 *B. affinis* (Haw.) Eynesbury (**31**) 16.vi.94 BD
- 782 B. senectella (Zell.) Howth (H21) one 1.vii.94 KGMB
- 783 B. boreella (Dougl.) Shin Valley (107) one 10.viii.94 SEFM
- 789 B. domestica (Haw.) Alveston (57) 23.vii.94 I. Travers-Ayre per KC
- 790 *Chionodes fumatella* (Dougl.) Hilton Village (<u>31</u>) 6.viii.94 BD; Winterton NNR (<u>27</u>) 28.vii.93 MJS
- 791 C. distinctella (Zell.) Winterton NNR (27) 28.vii.93 MJS
- 792 Mirificarma mulinella (Zell.) Fineshade (<u>32</u>) 29.viii.94 DVM (RIS)
- 796 Aroga velocella (Zell.) Rawmarsh, Rotherham (<u>63</u>) 6.v.94 HEB
- 801a Gelechia senticetella Stdgr. Raynes Park (<u>17</u>) 13.vii. & 3.viii.94 MSP, Ent. Rec. **107**: 38
- 802a *G. sororculella* (Hübn.) Strath Oykel, Shin Valley (<u>107</u>) a few 14.viii.94; Apigill (<u>108</u>) 10-13.viii.94 SEFM
- 811 *Scrobipalpa samadensis* (Pfaff.) Ahakista (<u>**H3**</u>) one 15.vi.94 AME & JRL
- 815 *S. nitentella* (Fuchs) Tongue (<u>108</u>) several larvae on *Atriplex* sp. 14.viii.94 moths bred, genitalia det. SEFM
- 816 S. obsoletella (F.v.R.) Larvae in fruits of Atriplex glabriuscula JRL, Ent. Gaz. 46: 277
- 820 S. artemisiella (Treits.) Larval description RJH, Ent. Rec. 107: 38
- 824 *Gnorimoschema strelicella* (H.-S.) Correction of Pierce & Metcalfe's female genitalia description RJH, *Ent. Gaz.* **46**: 283
- 825 *Phthorimaea operculella* (Zell.) Plympton (<u>3</u>) one at light 11.vii.94 RJH
- 831 *Caryocolum proximum* (Haw.) Cockayne Hatley (<u>30</u>) 16-22.vii.94 I. Woiwod per DVM; Pucketty (22) mid-viii.93 and subsequent larvae on *Stellaria media* MFVC, *Ent. Gaz.* **46**: 231-232
- 833 *C. junctella* (Dougl.) Wyre Forest (<u>37</u>) one adult 27.iv.94, larvae on *Stellaria graminea* v.94 and tenanted mine in *Cerastium* sp. MWH & ANBS, *BJENH* **8**: 190, 192

- 835a C. blandelloides Karsholt Loch Fleet (<u>107</u>) three 23.viii.94 RJBH, BJENH 8: 190, pl.3 fig. 22, New to Britain
- 839 *Nothris congressariella* (Bruand) Lundy (<u>4</u>) bred from larvae 22-26.v.93 R.S. Key, *Ent. Rec.* **107**: 273-275 with illustrations of larvae and adult.
- 840 Thiotricha subocellea (Hübn.) Lackford (<u>26</u>) a few cases on Mentha aquatica 13.x.94 AME & JRL
- 843 Aproaerema anthyllidella (Hübn.) Fineshade (<u>32</u>) 22-26.vii.94 DVM (RIS)
- 845 Syncopacma sangiella (Staint.) Barton Broad (<u>27</u>) 29.vii.93 DH; Holbrook Heath (<u>57</u>) 30.vii.94 HEB
- 853 Anacampsis populella (Clerck) Shin Valley (<u>107</u>) many 10-14.viii.94 SEFM
- 855 Acompsia cinerella (Clerck) Invershin (107) two 14.viii.94 SEFM
- 858 Hypatima rhomboidella (Linn.) Shin Valley (<u>107</u>) a few 14.viii.94 SEFM
- 862 *Dichomeris marginella* (Fabr.) Alveston (<u>57</u>) 31.vii.93 I. Travers-Ayre per KC; Soke of Peterborough (<u>32</u>) DHH, *BJENH* **8**: 190; Freshwater (<u>10</u>) 8.vii.89 SAK-J, *BJENH* **8**: 191
- 863 D. juniperella (Linn.) Achlean (96) vi.77 MJS & PHS, BJENH 8: 194, Pl. III, fig. 20.
- 866 Brachmia blandella (Fabr.) Porlock (5) 24.vii.94 JR
- 869 B. lutatella (H.-S.) Lulworth (9) 1994 MFVC, BJENH 8: 189

#### BLASTOBASIDAE

- 873 Blastobasis lignea Wals. Fineshade (32) 12-15.viii.94 DVM (RIS); Roche Abbey, Rotherham (63) 29.vii.94 – HEB; Burnham Beeches (24) 24.iv.94 – MVA; Ringstead NR (28) 12.vi.93 – DH; Alveston (57) 6.viii.94 – I. Travers-Ayre per KC
- 874 B. decolorella (Woll.) Portsmouth (11) several 8.vii.94 JRL

#### **STATHMOPODIDAE**

877 Stathmopoda pedella (Linn.) – Woodwalton Fen (31) vii.78 – J. Day per BD

#### **MOMPHIDAE**

- 879 Batrachedra pinicolella (Zell.) Fineshade (<u>32</u>) 11-17.vi.94 DVM (RIS); Genitalia figure of male in Pierce & Metcalfe refers to Coleophora laricella (Hübn.) HEB, Ent. Gaz. **46**: 130
- 880 *Mompha langiella* (Hübn.) Shrewsbury (<u>40</u>) many vacated mines on *Circaea* 4.viii.94 JRL
- 882 M. locupletella ([D. & S.]) Cabragh Bog (<u>H7</u>) one 26.v.94 KGMB
- 883 *M. raschkiella* (Zell.) Shin Valley (<u>107</u>) several mines on *Chamerion* 10.viii.94 SEFM
- 885 *M. conturbatella* (Hübn.) Parton (<u>73</u>) vii.94 AME, *Ent. Rec.* **107**: 10; Gresford (50) 12.vi.94 D. Poynton, *Ent. Rec.* **108**: 25
- 889a M. bradleyi Riedl Woodwalton Fen (31) 3.ix.93 MJS per BD
- 892 M. subbistrigella (Haw.) Woodwalton Fen (31) vi.78 J. Day per BD

#### COSMOPTERIGIDAE

- 896 Cosmopterix orichalcea Staint. Near Ashford (15) 6.vii.85 N.F. Heal, Ent. Rec. 107: 193
- 897 *C. lienigiella* L. & Z. Stodmarsh (15) 8.vii.84 N.F. Heal, *Ent. Rec.* **107**: 44
- 898 Limnaecia phragmitella Staint. Cabragh Bog (<u>H7</u>) larvae 28.v.94 KGMB
- 899 *Pancalia leuwenhoekella* (Linn.) Woodwalton Fen (<u>31</u>) vi.39 J.C. Freyer per BD
- 903 Glyphipteryx linneella (Clerck) Raynes Park (17) 22.vi & 12.vii.94 MSP
- 905 Blastodacna hellerella (Dup.) Holywood (<u>72</u>) at m.v. vii.94 AME, Ent. Rec. **107**: 10

#### **SCYTHRIDIDAE**

- 914 Scythris crassiuscula (H.-S.) Porton Down (8) one 24.vii.94 JRL
- 915 S. picaepennis (Haw.) South Wilts (8) lates dates in 1989-90 SMP, Ent. Rec. 107: 243-244

#### **TORTRICIDAE**

- 921 *Trachysmia inopiana* (Haw.) Soke of Peterborough (<u>32</u>) DHH, *BJENH* **8**: 190
- 930 *Piercea alismana* (Rag.) Rushy Moor, Askern (<u>63</u>) larvae in stems of *Alisma plantago-aquatica* 28.x.94 HEB
- 931 *P. luridana* (Gregs.) Portland (9) one 30.vii.94, moths bred from seedheads of *Odontites verna* collected the same day, a previously unrecorded foodplant RJH
- 950 Aethes francillana (Fabr.) Bred from Conium maculatum RJH, Ent. Rec. 107: 40
- 959 *Cochlylidia rupicola* Obraz. Myrtleville (<u>**H4**</u>) 23.vii.94 KGMB
- 964a Cochylis molliculana Zell. Portland (9) larvae in seedheads of Picris echioides 30.vii.94, moths bred RJH; Portsmouth (11) nine at m.v. 8.vii.94, many larvae and pupae in seedheads of P. echioides 1.viii.94, moths bred, larvae found thereafter throughout September, October, November. Southsea (11) one at m.v. 24.ix.94 JRL; Thorney Island (13) a few larvae in heads of P. echioides 11.ix.94, moths bred MSP & JRL, Ent. Gaz. 47: 50
- 968 *C. nana* (Haw.) Kilgarvan (<u>H1</u>) two 19.vi.94 AME, PHS & JRL
- 970 Pandemis cerasana (Hübn.) Strath Oykel (107) one 14.viii.94 SEFM
- 972 *P. heparana* ([D. & S.]) Holywood (<u>72</u>); Monreith; Bargrennan (<u>74</u>) at m.v. vii.94 AME, *Ent. Rec.* **107**: 10
- 974 Argyrotaenia ljungiana (Thunb.) Bedford (<u>30</u>) 5.viii.94 J.E. Childs per DVM
- 985 *Cacoecimorpha pronubana* (Hübn.) Alveston (<u>57</u>) 13.x.92 & 4.v.94 I. Travers-Ayre per KC; Soke of Peterborough (32) DHH, *BJENH* **8**: 190
- 986 Syndemis musculana (Hübn.) Listerlin (<u>H11</u>) one 14.vi.94 AME & JRL

- 987 Ptycholomoides aeriferanus (Herr.-Schäff.) Roche Abbey, Rotherham (63) 29.vii.94 HEB; Waresley Wood (<u>31</u>) 12.vii.94 BD; Alveston (<u>57</u>) 27.vii.94 I. Travers-Ayre per KC
- 998 Epiphyas postvittana (Walk.) Kettering (<u>32</u>) 3.xi.93 J. Ward per DVM; Raynes Park (<u>17</u>) 30.vii & 3.viii.94 – MSP; Biggleswade (<u>30</u>) 1994 – R. Revels per DVM; Saffron Walden (<u>19</u>) 22.ix.94 – AME; Alveston (<u>57</u>) 30.iv.94 – I. Travers-Ayre per KC
- 1001 Lozotaeniodes formosanus (Geyer) Prestbury (<u>58</u>) 14.vii.94 RIS, Ent. Rec. **108**: 25
- 1002 Lozotaenia forsterana (Fabr.) Holywood (<u>72</u>); Monreith (<u>74</u>) vii.94 AME, Ent. Rec. **107**: 10
- 1008 *Philedone gerningana* ([D. & S.]) Metcombe, Exmoor (5) flying over *Vaccinium* 25.vi.90 JR & BRB
- 1016 Cnephasia longana (Haw.) Soke of Peterborough (<u>32</u>) DHH, BJENH 8: 190
- 1020 C. stephensiana f. octomaculana Curtis Holywood (72) at m.v. vii.94 AME, Ent. Rec. 107: 10
- 1021 C. asseclana ([D. & S.]) Invershin (107) a few at m.v. 14.viii.94 SEFM
- 1023 *C. genitalana* P. & M. Porton Down (8) many at m.v. 23.vii.94 BG & JRL
- 1024 *C. incertana* (Treits.) Holywood (<u>72</u>) at m.v. vii.94 AME, *Ent. Rec.* **107**: 10
- 1035 Acleris bergmanniana (Linn.) Holywood (<u>72</u>) at m.v. vii.94 AME, Ent. Rec. **107**: 10
- 1040 A. caledoniana (Steph.) Skelpick Woods, Armadale, Invernaver (108) one imago, larvae on *Myrica* and *Salix* 7-14.viii.94 SEFM; Exmoor (5) 15.viii.94 JR
- 1043 A. aspersana (Hübn.) Strath Oykel, Invershin (<u>107</u>) a few 14.viii.94 SEFM; Holme Fen (<u>31</u>) 20.viii.1879 A.H. Ruston per BD
- 1067 *Celypha cespitana* (Hübn.) Porton Down (**8**) many at m.v. 23.vii.94 BG & JRL
- 1080 Olethreutes arcuella (Clerck) Worthy Wood, Porlock (5) 14.vi.94 –JR
- 1082 *Hedya pruniana* (Hübn.) Listerlin (<u>H11</u>) one 14.vi.94 AME & JRL; Shoreham (16) larvae on *Taxus baccata* I. Ferguson, *Ent. Rec.* **107**: 131
- 1083 *H. dimidioalba* (Retz.) Listerlin (<u>H11</u>) larvae on *Crataegus* 14.vi.94, moths bred AME & JRL; Holywood (<u>72</u>) vii.94 AME, *Ent. Rec.* **107**: 10
- 1088 *Pseudosciaphila branderiana* (Linn.) Yardley Chase (<u>32</u>) 19.vi.89 G.E. Higgs per DVM; Pamber Forest (12) 2.vii.94 BRB
- 1089 *Apotomis semifasciana* (Haw.) Botley Wood (11) several at m.v. 12.vii.94 JRL; Monreith (74) vii.94 AME, *Ent. Rec.* 107: 10
- 1091 A. lineana ([D. & S]) Hockwold (28) 1991 J.L. Fenn per DH
- 1109 *Lobesia littoralis* (H. & W.) Soke of Peterborough (<u>32</u>) DHH, *BJENH* **8**: 190
- 1112 B. robustana (Christ.) Porlock salt marsh (5) 20.vi.94 JR; larva mining leaves of Scirpus maritima RJH, Ent. Gaz. 46: 130
- 1113 Eudemis profundana ([D. & S.]) Biggleswade (<u>30</u>) 1994 R. Revels per DVM

- 1142 Epinotia tedella (Clerck) Shin Valley (107) one 10.viii.94 SEFM
- 1144 E. signatana (Dougl.) Drakes Broughton (<u>37</u>) 14.vi.94 ANBS, BJENH 8: 192
- 1147 E. cruciana (Linn.) Listerlin (<u>H11</u>) larvae on Salix aurita 14.vi.94, moths bred; Seefin (<u>H3</u>) larvae on S. aurita 16.vi.94, moths bred AME & IRL.
- 1152 E. maculana (Fabr.) Persie House (89) 24.ix.94 KPB, BJENH 8: 188
- 1155 E. brunnichana (Linn.) Shin Valley (107) a few 14.viii.94 SEFM
- 1157 Crocidosema plebejana Zell. Porlock (5) 22.x.94 JR
- 1159 Rhopobota naevana (Hübn.) Listerlin (H11) larvae on Vaccinium myrtillus 14.vi.94, moths bred AME & JRL; Kilgarvan (H1) larvae on Ilex 19.vi.94, moths bred AME, JRL & PHS; Strath Oykel, Shin Valley (107) many 10-14.viii.94 SEFM
- 1163 Zeiraphera ratzeburgiana (Ratz.) Threave; Loch Trool (<u>73</u>) old larval feeding vii.94 AME, Ent. Rec. **107**: 10
- 1166 Z. diniana (Guen.) Strath Oykel, Shin Valley (<u>107</u>) a few 14.viii.94 SEFM
- 1174 Epiblema cynosbatella (Linn.) Kilmeadan (<u>**H6**</u>) one 21.vi.94 AME & JRL
- 1176 E. trimaculana (Haw.) Holywood (<u>72</u>) at m.v. vii.94 AME, Ent. Rec. **107**: 10
- 1184a E. cirsiana (Zell.) Wellow (6) one 29.v.94 AME & JRL
- 1187 E. costipunctana (Haw.) Ringstead NR (28) 12.vi.93 DH
- 1196 Eucosma metzneriana (Treits.) Rushey Mead, near Bishop's Stortford (19) 28.vi.94 CWP, Ent. Rec. 107: 154
- 1197 E. campoliliana ([D. & S.]) Fineshade (<u>32</u>) 9.vii.93 DVM (RIS)
- 1201 E. cana (Haw.) Twynholm (<u>73</u>) at m.v. vii.94 AME, Ent. Rec. **107**: 10
- 1204 Thiodia citrana (Hübn.) Larvae continuing to feed after hibernation RJH, Ent. Gaz. 46: 2
- 1209 Blastesthia turionella (Linn.) Freshwater (<u>10</u>) 25.v.91 SAK-J, BJENH 8: 191
- 1215 *Cryptophlebia leucotreta* (Meyr.) Maidenhead (<u>22</u>) x.94, freshly emerged specimen probably from recently purchased oranges (B. Verdcourt) per BRB; Freshwater (<u>10</u>) indoors 29.ix.89 SAK-J, *BJENH* **8**: 191
- 1219 Lathronympha strigana (Fabr.) Freshwater (<u>10</u>) 23.vi.92 SAK-J, BJENH **8**: 191
- 1221 *Strophedra weirana* (Dougl.) Melton Wood, Doncaster (63) several 17.vi.94 HEB
- 1233 Pammene aurantiana (Stdgr.) Porlock (5) 4.viii.94 JR
- 1237 *P. germmana* (Hübn.) Porlock (<u>5</u>) 17.vi.93 JR
- 1249 Cydia prunivorana (Rag.) Plympton (3) three at light 1.vii.94 RJH
- 1252 *C. lunulana* ([D. & S.]) Prees Heath (<u>40</u>) 24.v.94 AMD, *Ent. Rec.* **107**: 240
- 1255 *C. succedana* ([D. & S.]) Monreith (<u>74</u>) at m.v. vii.94 AME, *Ent. Rec.* **107**: 10
- 1266a C. illutana (H.-S.) RAF Chilmark (8) 9.vi.93 SMP, Ent. Gaz. 46: 277
- 1282 *Dichrorampha sylvicolana* (Hein.) Woodwalton Fen (<u>31</u>) vii.34 J.C.F. Freyer per BD

#### ALUCITIDAE

1288 Alucita hexadactyla (Linn.) – West Lynn (28) xi.93 – R. Wesley per DH

#### **PYRALIDAE**

- 1289 Euchromius ocellea (Haw.) St. Agnes, Isles of Scilly (1) 13.viii.94 J. Hale & M. Hicks; Perranporth (1) 22.xii.94 FHNS, Ent. Gaz. 46: 139; Colinbrook (24) bred from grapes imported from South Africa P.R. Hall per MVA
- 1292 Calamotropha paludella (Hübn.) Far Ings NR (<u>54</u>) 2.vi.94 A.T. McGowan; Messingham Sand Quarry (54) 10 & 30.vii.94 R. Johnson; Ashton Wold Lake (<u>32</u>) DHH per AMD
- 1300 *Crambus pratella* (Linn.) Scotton Common NR (<u>54</u>) 12.vii.94 R. Johnson per AMD
- 1302 *C. perlella* (Scop.) Holywood (<u>72</u>); Monreith (<u>74</u>) at m.v. vii.94 AME, *Ent. Rec.* **107**: 11
- 1305 *Agriphila tristella* ([D. & S.]) Mochrum Loch (<u>74</u>) vii.94 AME, *Ent. Rec.* **107**: 10
- 1307 A. latistria (Haw.) Porlock (5) 7.viii.94 JR; Ampthill Park (30) 18.viii.94 DVM
- 1316 Catoptria falsella ([D. & S.]) Rossington, Doncaster (<u>63</u>) four, 2-21.viii.94 R.I. Heppenstall per HEB; Holywood (<u>72</u>) at m.v. vii.94 AME, Ent. Rec. <u>107</u>: 11
- 1322 *Pediasia fascelinella* (Hübn.) Dymchurch (15) 2.vii.94 and Dungeness (15) 30.vii.94 S. Clancy, *Ent. Rec.* **107**: 255
- 1323 P. contaminella (Hübn.) Cockayne Hatley (30) 16-22.vii.94 I. Woiwod per DVM; Dawlish Warren (3) 6,8, 23.viii.94 R. McCormick, Ent. Rec. 107: 14; Yateley Common (12) seven, 22.vii.94 AMD
- 1324 P. aridella (Thunb.) Gosberton (<u>53</u>) 7 & 30.vi.94 M.A. Joy per AMD
- 1325 Platytes alpinella (Hübn.) Farnborough (12) 23.vii.94 R. Parfitt per AMD
- 1328 Schoenobius gigantella ([D. & S.]) Ashton Wold Lake (32) vi.94 D.H. Howton per AMD
- 1330 *Donacaula mucronellus* ([D. & S.]) Burton Gravel Pits (<u>54</u>) 2.viii.94 K. Skelton per AMD
- 1335 *Scoparia ancipitella* (La Harpe) Shin Valley (<u>107</u>) a few 10-14.viii.94 SEFM; Cockayne Hatley (<u>30</u>) 2-8.vii.94 I. Woiwood per DVM
- 1341 Eudonia lineola (Curt.) Invernaver, Bettyhill (108) 10-14.viii.94 –SEFM
- 1344 *E. mercurella* (Linn.) Holywood (<u>72</u>); Monreith (<u>74</u>) vii.94 AME, *Ent. Rec.* **107**: 11
- 1350 Nymphula stagnata (Don.) Holywood (<u>72</u>) at m.v. vii.94 AME, Ent. Rec. **107**: 11
- 1356a Evergestis limbata (Linn.) Chale Green, I.o.W. (10) 23 & 30.vii.94 S.R. Colenutt, Ent. Rec. 107: 197 New to mainland Britain. BJENH 8: 189 and a colour illustration Plate 3, Fig. 4
- 1357 E. extimalis (Scop.) Ramsey (31) vi.93 D. Evans per BD
- 1358 E. pallidata (Hufn.) Anston Stones Wood (63) 15.vii.94 HEB
- 1363 Pyrausta ostrinalis (Hübn.) Porton Down (8) several 24.vii.94 BG & JRL

- 1368 Margaritia sticticalis (Linn.) Spurn (61) 12.viii & 2.ix.94 B.R. Spence per HEB
- 1375 Ostrinia nubilalis (Hübn.) Porlock (<u>5</u>) 28.vi.94 JR; East Prawle (3) 26, 27.ix.94 BRB; Cranwich Camp (<u>28</u>) 18.vii.89 BFS; Alveston (<u>57</u>) 27.vi.94 I. Travers-Ayre per KC
- 1378 *Phlyctaenia coronata* (Hufn.) Ballaglass, Maughold (<u>71</u>) 19.vii.94 G.D. Graine per AMD
- 1390 *Udea prunalis* ([D. & S.]) Holywood (<u>72</u>) at m.v. vii.94 AME *Ent. Rec.* **107**: 11
- 1396 *Mecyna flavalis flaviculalis* Carad. Caversham, Reading (<u>22</u>) 23.vii.93 BRB; Ballinger (<u>24</u>) 1.viii.94 P. Hall per MVA
- 1405 *Pleuroptya ruralis* (Scop.) Listerlin (<u>H11</u>) larvae on *Urtica* 14.vi.94 AME & JRL
- 1417 Pyralis farinalis Linn. West Lynn (28) vii.93 R. Wesley per DH
- 1425 Galleria mellonella (Linn.) West Lynn (28) viii.93 R. Wesley per DH
- 1433 Cryptoblabes bistriga (Haw.) South Cave, Hull (61) 8.vii.94 D.B. Cutts, det. HEB; Wath Wood, Rotherham (63) HEB; Porlock (5) 20.vi.94 JR
- 1434 *C. gnidiella* (Mill.) Peterborough (<u>32</u>) bred from pomegranate 5.i.94 MSP
- 1450 Metriostola betulae (Goeze) Barton Broad (27) 29.vii.93 MJS
- 1435 Acrobasis tumidana ([D. & S.]) Account of status with review of records BFS, Ent. Rec. **107**: 241-243
- 1437 A. consociella (Hübn.) Arlington (<u>14</u>) larvae on oak 27.v.94 MSP, AME & JRL
- 1438 Numonia suavella (Zell.) Bearly (38) 14.vii.94 R.C. Kendrick per AMD
- 1439 *N. advenella* (Zinck.) Porlock (5) spinnings on *Sorbus aucuparia* 11.v.93, moths bred JR; Alveston (<u>57</u>) 31.vii.94 I. Travers-Ayre per KC
- 1445 *Pempelia formosa* (Haw.) Emmer Green, Reading (22) 1.vii.94 D. Notton per BRB; Messingham Sand Quarry (<u>54</u>) 20.vii.94 R. Johnson per AMD
- 1446 *Salebriopsis albicilla* (H.-S.) Welshbury Hill (<u>34</u>) 1.vii.94 R.J. Barnett, 25.vi.94 P. Waring per AMD
- 1447 Sciota hostilis (Steph.) Illustration and comparison with next species BFS, Ent. Rec. 107: 147 figure 7
- 1447a S. adelphella (F. v. R.) List of records, colour plate etc. BFS, Ent. Rec. **107**: 147-149, figs 7-9
- 1458 Myelois cribrella (Hübn.) Kilnsea (61) 1994 P.A. Crowther
- 1467 Ancylosis oblitella (Zell.) Mepal, Ely (<u>29</u>) 1.vii.94 R. Partridge per AMD
- 1480 *Homoeosoma nebulella* ([D. & S.]) Gosberton Fen (<u>53</u>) 13.vi.94 M.A. Joy per AMD
- 1484 *Phycitodes saxicola* (Vaughan) Alveston (<u>57</u>) 26.vi.94 I. Travers-Ayre per KC

- 1474 Ephestia parasitella unicolorella Stdgr. Biggleswade (<u>30</u>) 1994 R. Revels per DVM; Hilton Village (<u>31</u>) 2.vii.94 BD
- 1466 Mussidia nigrivenella (Rag.) Dungeness (<u>15</u>) 12.viii.94 S.P. Clancy, Ent. Rec. **107**: 146, BJENH **8**: plate 3, fig. 7
- 1469 Euzophera cinerosella (Stdgr.) Warboys Wood (<u>31</u>) 22.vi.29 J.C.F. Fryer per BD

#### **PTEROPHORIDAE**

- 1488 Agdistis bennetii (Curt.) Saffron Walden (19) 30.vii.94, well inland from salt marsh AME. Ent. Rec. 107: 250
- 1494 *Capperia britanniodactyla* (Gregs.) Ballaglass, Maughold (71) 4.viii.94 G.D. Craine per AMD
- 1495 Marasmarcha lunaedactyla (Haw.) Elton Furse (<u>31</u>) 12.vii.94 D. Evans per BD
- 1496 Cnaemidophorus rhododactyla ([D. & S.]) Holywell (14) 29.vii.94 MSP
- 1497 Amblyptilia acanthadactyla (Hübn.) Ballaglass, Maughold (71) 4.viii.94 G.D. Craine per AMD; Richmond Park (17) 21.vii.94 MSP
- 1504 Platyptilia pallidactyla (Haw.) Holywood (<u>72</u>) at m.v.; Clatteringshaws Loch (<u>73</u>) vii.94 AME, Ent. Rec. <u>107</u>: 11
- 1506 Stenoptilia saxifragae (Fletch.) Higher Poynton (58) 3-22.vii.94 S.H. Hind per AMD
- 1507 S. zophodactylus (Dup.) Yardley Chase (<u>32</u>) 9.viii.94 DVM; Stewartby Lake (<u>30</u>) 21.vii.93 G.E. Higgs per DVM
- 1508 S. bipunctidactyla (Scop.) Barton Broad (27) 29.vii.93 MJS
- 1510 *Pterophorus tridactyla* (Linn.) Ahakista (<u>H3</u>) larvae on *Thymus* 17.vi.94, moths bred AME & JRL
- 1517 Adaina microdactyla (Hübn.) Fennel's Bay (<u>H4</u>) 29.v.94; Blackditch Wood (**H20**) 2.vii.94 KGMB
- 1518 Leioptilus lienigianus (Zell.) South Cave, Hull (<u>61</u>) 14.vii.94 D.B. Cutts, det HEB; Upton Warren (<u>37</u>) 1.vii.94 ANBS, *BJENH* **8**: 192
- 1519 L. carphodactyla (Hübn.) Easton Hornstocks (<u>32</u>) 29.vi.93 MSP; Narborough (<u>28</u>) vi.94 – Norfolk Moth Survey Newsletter <u>46</u>

## Corrections to 1993 list - Vol. 107: page 211

439 S. compunctella H.-S. – "Feshiebridge (96) . . . DO'K" should be deleted..

# THE HISTORY OF *PHYLLONORYCTER SAGITELLA* (BJERKANDER, 1790) (LEP.: GRACILLARIIDAE) IN WORCESTERSHIRE

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THIS SPECIES was first recorded in Britain by L. Price (1977) who found mines in aspen (*Populus tremula*) near Dymock, Gloucestershire in early July 1955 and bred moths from these in August of the same year. More were found in July 1956 with moths emerging in August and September. Price thought that they were *Phyllonorycter comparella* (Dup.) until they were recognised by John Bradley in 1976 as being *P. sagitella* and new to the British Isles.

I found mines common very locally in aspen near Pershore, Worcestershire in July 1976. I had just started collecting microlepidoptera that year and was similarly pleased to have found what I also thought was *comparella*, until Mr Price's article appeared in 1977. I bred a lot of specimens but as I was going on holiday I set two and let the rest go! My moths emerged at the end of July 1976 in that very hot summer.

Since then I have looked at the aspens at this same site almost every year without ever seeing any sign of it. There had been no trace of any autumn mines there in 1976 which surprised me, as I assumed I was finding the first generation of a bivoltine insect.

The only other British record of this species was by Michaelis in Denbighshire, North Wales in 1978 (Michaelis, 1979). There is no data recorded of which month it was, and rumour has it that the site has now vanished under a traffic island. Unfortunately the author has now passed on.

Last year, on 3.ix.1995, I visited the same site near Pershore again and was amazed to find, at the end of another very hot summer, that more *sagitella* mines had appeared in exactly the same small group of now much bigger trees. I found far fewer mines, six in all, and bred two moths and three parasites on 23.ix.1995 and 26.ix.1995. A further visit with Dr M.W. Harper on 21.ix.1995 revealed more mines (about ten in all), all of which had recently been vacated. So the moth is resident here and must have survived in small numbers perhaps nearby since 1976. There are about a dozen aspens of the edge on an unimproved pasture, with others along the edge of the road alongside the field next to woodland. The latter has been cleared of its shrub layer so no aspens now occur within it, but there is another larger wood a mile down the road which might be a source. I have searched a lot of woodland elsewhere in the county over twenty years, and although many contain aspen in plenty, I have not found any *sagitella* mines, and therefore it remains for some reason a very scarce and local insect.

While looking through the insect collection at Worcester Museum I found four specimens of sagitella which seem to have been collected by a local

Worcester entomologist, J.E. Fletcher, and are labelled "ex. *Populus tremula*, Worcs.". Three are dated "6.8.1876", and one "4.8.1876". I am not certain if this was date of emergence or collection. So *sagitella* has, it seems, been a British insect for a long time, and is clearly not a recent colonist.

The other interesting problem concerns its voltinism. There was no sign of old July mines in September 1995, and no later ones in 1976. Price's mines were found in July, as were mine in 1976, but I wonder if it is univoltine, with the imago overwintering, as in *comparella*? I have never found the latter so I do not know if it always has two generations. Perhaps *sagitella* likes really hot summers and has a variable time of emergence, and maybe the best time to look for the mines most years is in September.

Salix feeding Phyllonorycter occasionally mine aspen and P. hilarella (Zett.) has been bred from aspen by Dr M.W. Harper (pers. comm.). However sagitella mines are quite distinctive as they are very flat, hardly contorting the upper surface of the leaf, and the underside is smooth and pale.

#### References

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Price, L. 1977. *Phyllonorycter sagitella* (Bjerkander, 1790) = tremulae Zeller, 1846 (Lep.: Gracillariidae): A species new to Britain. *Entomologist's Record & Journal of Variation*, **89**: 106-107.

# Red Admiral butterfly Vanessa atalanta (L.) (Lep.: Nymphalidae in January

On Sunday 14 January 1996, a sunny day when the temperature in central London was recorded as reaching 13°C, I watched a Red Admiral butterfly in my garden at Orpington, on the outskirts of London. A few days later, on 17 January, I saw another butterfly sunning itself on the wall of our garage. Evidently the unusually warm and mild weather at that time had interrupted the winter slumbers of one or more individuals attempting to hibernate.

There are numerous reports in the literature of this butterfly species attempting to overwinter, the latest date for the London area being in February at Ruislip (Plant, 1987. Butterflies of the London Area. London Natural History Society). Whether or not the Orpington examples managed to resume their hibernation during the cold spell in February 1996 and survive to the spring must be in doubt. Plant (op. cit.) states that "There remains no confirmed records of Red Admirals truly surviving the winter in the London area."— Peter Gann, 11 Honeybourne Way, Petts Wood, Orpington, Kent BR5 1EZ.

# THE SUMMER BROOD (F. ONERATELLA) OF CALOPTILIA FALCONIPENNELLA HB. (LEP.: GRACILLARIIDAE) IN BRITAIN

#### D. O'KEEFFE

50 Hazelmere Road, Petts Wood, Orpington, Kent BR5 1PD.

ON 20 JULY 1993 I took at light in my garden, a *Caloptilia* which I did not recognise. It was similar in colour and appearance to *C. stigmatella* Fabr. but it had a pale yellow, oblong costal blotch unlike the characteristic off-white triangular blotch of that species. However, I decided it was a form of *stigmatella* and thought no more of it until a further six identical specimens turned up in my m.v. trap between 9 July and 8 August 1994. It then became apparent that I might have something new – at least to Britain. With the assistance of Mr Michael Shaffer of the Natural History Museum I was able to examine the collection of Palaearctic Gracillariidae and soon found a short series of moths under the name *Caloptilia oneratella* Zell., which matched my specimens.

Zeller described *Caloptilia oneratella* as a species new to science in 1865 but Kuznetsov (1990) states that *oneratella* Zell. is a form of *falconipennella* Hb. though does not mention that it is actually a seasonal form. Examination of the genitalia of one of my male specimens has confirmed that it is conspecific with *falconipennella*.

C. falconipennella has always been a rare species in Britain and most of the specimens in collections have been bred in the months of September/October from larvae collected in late August; others have been disturbed from hibernation during the winter months. Hibernated specimens are on the move again quite early in the year if the weather is mild and in 1995 I had several at light towards the end of March. According to the published information in Emmet (1985 & 1988) falconipennella is univoltine.

In April 1995 I visited Mr Ian Sims of Earley, near Reading and noticed among his bred series of *C. elongella* L. two undoubted *falconipennella f. oneratella* which he had bred in July 1994 from larvae found on alder *Alnus glutinosa* in June 1994 with the *elongella*. Although he thought them to be an unusual and rather small form of *elongella* he assumed they must be that species because they came from alder and the dates of feeding and emergence were wrong for typical *falconipennella* which, in any case, they did not resemble. In June 1995 I searched alder in Petts Wood and eventually found one cocoon (on 26 June) which produced a moth of the *oneratella* form on 18 July 1995; I was also able to confirm that the larval folds and cocoon are identical to those of typical *falconipennella*. Between 11 July and 8 August 1995 a further seven *f. oneratella* came to m.v. in my garden.

To summarise, f. oneratella Zell. is the first (summer) generation of Caloptilia falconipennella Hb. and appears in July/August from larvae

feeding on alder in May/June. The second (autumn) generation, typical falconipennella, appears in late September/ October from larvae feeding in August/September.

Prior to 1993 I only once found the larva of *falconipennella* at Petts Wood despite persistent searching over several years. By contrast, larvae were fairly common every September from 1993 to 1995 both at Petts Wood and Bexley. It is evident that the species has become increasingly common over the past few years not only in north-west Kent but also in Berkshire where Ian Sims has found it in a number of localities. It is probable that *falconipennella* is always bivoltine but that this has only become apparent during a period of exceptional abundance; nevertheless, the possibility that the occurrence of two generations in Britain has been brought about by warm conditions in recent times cannot be ruled out.

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# Notes on the Scarlet Tiger *Callimorpha dominula* (Linnaeus) (Lep.: Arctiidae) occurring on Salisbury Plain in Wiltshire

During the evening of 22 June 1993 whilst my brother and I were running m.v. lights at Tilshead (SU0349) on Salisbury Plain we were rather surprised to find an extremely fresh *C. dominula* in one of the traps. Naturally there was some speculation as to where the specimen may have originated. At the time the nearest possible localities appeared to be not less than ten kilometres (six miles) to the east and fourteen kilometres (eight miles) to the south.

Some time later whilst in conversation with Mr Stephen Palmer, who at the time was still resident in Wiltshire, he informed me that he and John Langmaid had encountered a specimen near Shrewton Folly (SU097482) on 5 July 1987. This is the first recorded occurrence of *C. dominula* on the dry chalk of Salisbury Plain of which I am aware.

During the first week of April 1995 as I was passing Shrewton Folly (SU094484) my attention was taken by extremely attractive overhanging boughs of blackthorn (*Prunus spinosa*) in full bloom. I immediately thought that a session of beating the branches might reward me with a record of

larvae of the Sloe Pug *Chloroclystis chloerata* (Mab.). I was unsuccessful in that respect but was very surprised to beat out a single larva of *C. dominula*. It is, of course, interesting to note that this was very near to the locality mentioned above and as indicated by Stephen. One may speculate as to any other connections.

On 15 July 1995 my brother and I attended a field meeting of the Imber Ranges conservation group at Coulston Down (ST9550) and whilst sweeping over areas of typical downland flora I disturbed another specimen of *C. dominula*.

Although the above records are limited they do confirm that C. dominula has bred on the dry chalkland areas of Salisbury Plain and that specimens have been noted in very widely separated localities and may have been established (not confirmed) for several years. There may be other records of which I am unaware. This type of habitat is in considerable contrast to the usual waterside habitats normally associated with this species. The size of the training areas -36,000 hectares (90,000 acres) – and in particular the restricted access, limits the amount of field-work that can be undertaken on this enormously rich area but in any case I would suspect that the species is at low density.

A few other notes may be of interest. Whilst in conversation with Mr Phil Cleverly from Devizes he informed me that on the outskirts of that town he has noted a colony of C. dominula on the chalk immediately above the greensand and on a seasonally wet flush. The population at this locality has been increasing dramatically with about 200 adults seen in 1995. On 30 June 1995 I discovered two specimens in my static trap at my home address in Trowbridge (ST861584). My garden and an area within a radius of about half a mile do not, to the best of my knowledge, contain habitat which would be normally associated with this species. I am not aware of a colony, now or historically, in the Trowbridge area but there are several locations which would appear to offer suitable habitat in the vicinity of the Kennet and Avon Canal. In addition Stephen informed me of four locations in typical habitat which have come to his notice, either from his own field-work or observations of others. When this information is combined with my own occasional observations around the county and a few other records which have come to my attention then even this limited information indicates that C. dominula is currently very well distributed within Wiltshire. As of the present the majority of records of C. dominula are associated with waterways, with a particular emphasis on those streams and rivers which drain from the chalk.

I would like to extend my thanks to Mr Stephen Palmer for full details of his observations made during field-work on Salisbury Plain and elsewhere and to Mr Phil Cleverly for his observations made at Devizes.— M.H. SMITH, 42 Bellefield Crescent, Trowbridge, Wiltshire BA14 8SR.

### A SEX-LINKED RECESSIVE CHARACTER FOR MELANISM IN THE MOTH *ECLIPTOPERA SILACEATA* (D. & S.) (LEPIDOPTERA: GEOMETRIDAE)

T.H. FORD

39 Ashbury Drive, Sheffield S8 8LE.

IN MAY OF 1970 I spent a short holiday in Devon and one evening, on returning to the house where I was staying, I noticed a female of the Small Phoenix moth *Ecliptopera silaceata* (D. & S.) resting on the wall of the porch where it had been attracted by the electric light. I boxed it and left it overnight. The next morning I examined it and as it was apparently a perfectly normal female, it was released. It had, however, laid eighteen eggs in the box, and I decided to rear these on my return home.

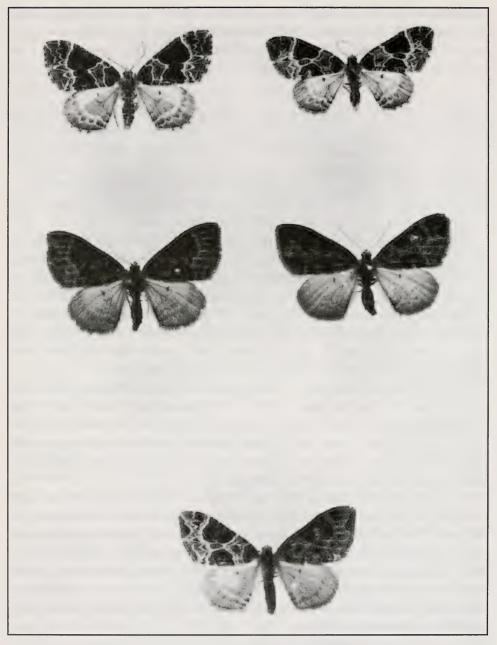
When hatching occurred the young larvae were started off on leaves of rose bay *Chamaenerium angustifolium* (L.) which they attacked with relish, and in due course I had eighteen healthy pupae. When emergence started, the first two to emerge were normal in appearance and the following morning, to my delight, I saw the bilateral gynandromorph mosaic, depicted on plate E, drying its wings. During the next few days the emergence was complete, and I had thirteen apparently normal males, the gynandromorph and four females, two of which were the dark form shown on the plate.

The four females were paired and eggs were obtained from all pairings. In due course the larvae were seen to be developing inside the eggs. Unfortunately those from the dark females, although fully developed, failed to hatch, and those from the normal females produced only apparently normal individuals, which on interbreeding for a further two generations, failed to provide any more of the dark variety.

The above results indicate that the factor for the production of the dark colouring is probably a sex-linked recessive carried on the X chromosome. If we use X for the normal chromosome and X" for the varietal chromosome then the genetic constitution of the original female would be (XY) since the (XX) condition is the male in the Lepidoptera. This female then, had paired with an unknown male with the constitution (X"X) and which would have been normal in appearance. The offspring of this pairing would produce four genotypes in equality as follows:

XX = Normal male XY = Normal female X"X = Male carrier X"Y = Dark variety female

The gynandromorph was formed from an egg which should have produced a male carrier (X"X), normal in appearance, but at the first division of the zygote the normal X chromosome was lost from the right-hand cell leaving an individual in which the left half had the male carrier constitution (X"X) and was therefore normal in appearance, whilst the right half had the



Top left: Normal female

Top right: Normal male

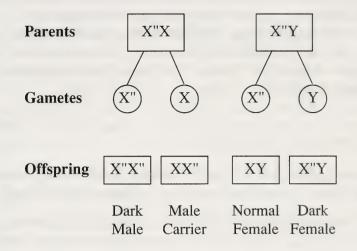
Centre: Dark variety females

Bottom: Bilateral gynandromorph mosaic, left side male heterozygote;

right side dark variety female

constitution X" only. As the Y chromosome does not appear to be essential to development, the right-hand cell developed as a female, and since there was no normal X chromosome to suppress the recessive character, this was also dark.

It was disappointing that the eggs from the dark female failed to hatch, since this pairing, had the male been heterozygous, should have produced dark females, normal females, heterozygous males (carriers) and the unknown dark male, the four classes being produced in equal numbers as follows:



These results make sex-linkage the most likely explanation but the data are insufficient to exclude totally the possibility of a sex-limited situation.

The specimens shown on the plate were presented to the British Museum (Natural History) where the late D.S. Fletcher said (*in litt*.) that they were unable to match the dark females either in the British Collection or the World Collection, but that in 1967 B.J. Lempke (*Tijdscr. Ent.*, 110: 314) had described a dark specimen approaching these, which he named ab. *nigrescens* and that his type was unique.

## Acknowledgements

I should like to thank Dr Denis Owen and Dr Allister Smith for reading through this paper and for making valuable suggestions on the content.

### Nephrocerus scutellatus (Macquart, 1843) (Dip.: Pipunculidae) in Surrey

A surprising total of 136 examples of *Nephrocerus scutellatus* (Macquart) was taken in two malaise traps operated by me on the embankment of the M25 motorway in Surrey during the summer of 1993. This species was

added to the British list in 1979, when a single example was taken at Kings Park Wood, Sussex, on the border with Surrey (Stubbs, 1980. *Proc. Trans. BENHS* 13: 46-48). Subsequently, it was taken at Selbourne Common, Hampshire from a rough grassland area with oak scrub. The two malaise traps on the M25 embankment thus constitute the third and fourth British localities for this nationally Endangered (Red Data Book category 1) fly. The habitat surrounding the two malaise traps is, very conveniently, similar to that at Selbourne Common – grassland with developing oak scrub, albeit that the oaks are artificially planted. A good number of the fly's congener, *N. flavicornis* (Zetterstedt, 1844) was also taken in both traps, though these were outnumbered by the "rarer" species. Several examples of *N. scutellatus* were made available to other dipterists during the 1993 annual meeting in London; the fly should now be fairly well-represented in private collections!— Colin W. Plant, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.

# Hypsopygia costalis (Fabr.) (Lep.: Pyralidae) and Piercea vectisana (H. & W.) (Lep.: Tortricidae) recorded in south-west Scotland

During a family holiday at Conheath, Glencaple, Dumfries (VC72) in August 1995 a single example of *Hypsopygia costalis* was recorded on 12 August in an m.v. light trap operated in the small garden of our rented cottage. Goater (1986, *British Pyralid Moths*, p.94) gives the distribution as "England south of Durham and Lancashire". According to Maitland Emmet, who maintains records of the British Lepidoptera for the distribution maps in *Moths and Butterflies of Great Britain and Ireland*, the only other Scottish record available is from Buckhan in Roxburghshire (VC80) published in *History of the Berwickshire Naturalists' Club* in 1992. The recent dates of these records may suggest that this moth has recently extended its range into Scotland.

An evening walk on the nearby River Nith bank on 10 August revealed several *Piercea vectisana* among the growth of sea arrow-grass *Triglochin maritima*. Bradley, Tremewan & Smith (1973, *British Tortricoid Moths*, p.40) comment that this moth is "locally common and sometimes abundant in England as far north as Cheshire, Lancashire, Westmorland and south Durham" adding that it is "Apparently unknown from Scotland". Maitland Emmet (*pers. comm.*) tells me that this is a new record for Scotland, though the moth is recorded in the neighbouring English vice-counties.

– H.E. Beaumont, 37 Melton Green, West Melton, Rotherham, South Yorkshire, S63 6AA.

# NEW GALL (INSECTA & ACARI) RECORDS FROM THE ISLE OF MAN

#### J.P. O'CONNOR

National Museum of Ireland, Dublin 2, Ireland.

GARRAD (1976) provides the most comprehensive account of Manx galls, including data on twenty-four that are caused by mites and insects. Other records are given by Williamson (1945), Williamson and Cowin (1941, 1945) and Stubbs (1986a). During visits to the island in July 1994 and July 1995, the author took the opportunity to collect insect and mite galls. Several of these are new to the Manx fauna while the known distribution of other species is greatly extended. These records are presented here. Species already found to be common by Garrad (*op. cit.*) have not been included. The material was determined using Darlington (1975), Docters van Leeuwen (1982), Stubbs (1986b), Redfern & Askew (1992) and Dauphin & Aniotsbehere (1993, 1994). The common names are from Spooner & Delarge (1993). The host plants are widely distributed on the island with the exception of rowan *Sorbus aucuparia* L. which is local (Allen, 1984).

#### Insecta

#### **HEMIPTERA**

- Eriosoma ulmi (L.). Peel (SC2484), 27 July 1995, roll-galls common on an elm *Ulmus* in an urban park.
- Hayhurstia atriplicis (L.). Port e Vullen (SC4792), 26 July 1995, roll-galls plentiful on the leaves of two common oraches *Atriplex patula L. H. atriplicis* has been previously collected on the Ramsey and Jurby shores in the north of the island and at Kentraugh in the south (Garrad, 1976).
- *Psyllopsis fraxini* (L.). Ballaglass Glen (SC4689), 26 July 1995, common on ash *Fraxinus excelsior* L.; Tynwald (SC2882), 24 July 1995, scarce on ash.

#### **DIPTERA**

- *Chirosia betuleti* (Ringdahl). Ballaglass Glen (SC4689), 26 July 1995, common; Laxey Wheel (SC4385), 23 July 1995, abundant. The galls were on lady ferns *Athyrium filix-femina* (L.) Roth.
- Contarinia jacobaeae (Loew). Port Erin (SC1868), 25 July 1995, abundant on common ragwort Senecio jacobaea L. on waste ground near the Marine Station; Port e Vullen (SC4792), 26 July 1995, present on common ragwort.
- Dasineura fraxini (Bremi). Ballaglass Glen (SC4689), 26 July 1995, common on ash; Laxey Wheel (SC4385), 23 July 1995, abundant on ash; Douglas (SC3876), 24 July 1995, abundant on an ash near the Manx Museum. Popularly known as the ash mid-rib pouch-gall.

D. pustulans (Rubsaamen). Port Erin (SC1868), 25 July 1995, scarce on meadowsweet Filipendula ulmaria (L.) Maxim. near the Marine Station.

#### **HYMENOPTERA**

- Andricus curvator Hartig. Tholt-e-Will Glen (SC3789), 1 July 1994, curved leaf and twig galls abundant on a large oak *Quercus*.
- A. lignicola (Hartig). Tholt-e-Will Glen (SC3789), 1 July 1994, cola-nut galls abundant on a large oak. A. lignicola was only recently recorded from the Isle of Man. It occurred at Ramsey over 9km to the north-west of the present site (Stubbs, 1986a).
- A. quercuscorticis (L.). The Raggatt (SC2482), bark galls present on a single oak in a personal tree planting site.

#### Acari

#### **ERIOPHYOIDEA**

- Acalitus brevitarsus (Fockeu). Tynwald (SC2882), 24 July 1995, galls scarce on alder *Alnus glutinosa* (L.) Gaertn. The gall is popularly known as the alder-leaf erineum or the alder erineum.
- A. rudis (Canestrini). Dhoon Glen (SC4586), 26 July 1995, common on leaves of birch Betula.
- Artacris macrorhynchus macrorhynchus (Nalepa). Ballaglass Glen (SC4689), 26 July 1995, maple-bead galls scarce on sycamores Acer pseudoplatanus L.; Douglas (SC3876), 24 July 1995, scarce on a sycamore near the Manx Museum; Tynwald (SC2882), 24 July 1995, common on sycamores.
- Cecidophyes galii (Karpelles). Near Ballaglass Glen (SC4689), 26 July 1995, common on Galium.
- Eriophyes *inangulis* (Nalepa). Tynwald (SC2882), 24 July 1995, scarce on alders. This gall was previously collected at Gob y Valley in the north of the island (Garrad, 1976).
- E. iteinus Nalepa. Near Ballaglass Glen (SC4689), 26 July 1995, common on several willows *Salix*.
- *E. laevis* (Nalepa). Ballaglass Glen (SC4689), 26 July 1995, abundant on alders; Tynwald (SC2882), 24 July 1995, common on alders.
- E. leiosoma (Nalepa). Ballaglass Glen (SC4689), 26 July 1995, scarce on limes *Tilia*.
- E. nervisequus fagineus (Nalepa). Ballaglass Glen (SC4689), 26 July 1995, scarce on beech trees Fagus sylvatica L.; Dhoon Glen (SC4586), 26 July 1995, common on several beech trees.
- E. pseudoplatani Corti. Ballaglass Glen (SC4689), 26 July 1995, common on sycamores; Dhoon Glen (SC4586), 26 July 1995, common on

1739 Epirrhoe rivata Hb. Wood Carpet

Locally widespread in the southern half of England; larva feeds on Hedge and Lady's Bedstraw. Recorded in 1986.

1750 Lampropteryx suffumata D. & S. Water Carpet

Widely distributed and generally common throughout much of the British Isles; the species has been recorded in Devon during 1994; larva feeds on various species of Bedstraw. Recorded in 1983.

1757 Eulithis mellinata Fab. The Spinach

Widespread and moderately common in England and Wales; larva feeds on Red and Black Currant. Recorded in 1983.

1792 Epirrita dilutata D. & S. November Moth

Probably resident but until a full genitalia examination is carried out this will not be known; larva feeds on Blackthorn, Hawthorn and other species.

1807 Perizoma albulata D. & S. Grass Rivulet

Widespread and locally common; the foodplant, Yellow Rattle, is nearby. Recorded in 1989.

1827 Eupithecia intricata Zett. ssp. arceuthata Freyer. Freyer's Pug 13.6.1964 by A.H. Dobson & H.A. Kennard (D.A. Ent. Section 17th report: 47)

1844 E. indigata Hb. Ochreous Pug

Locally widespread but a possible vagrant from pinewoods nearby; larva feeds on Pine. Recorded in 1989.

1849 E. fraxinata Crewe. Ash Pug

The headquarters of this species are to be found in the south-east and east of the country where its larvae feed on Sea Buckthorn; there is an Ash feeding race which occurs in small numbers over the greater part of the British Isles; the species has been recorded in South Devon. Recorded in 1986.

1867 Aplocera plagiata Linn. Treble-bar

Found not uncommonly over the greater part of the British Isles, the species inhabits downland, moorland and woods; larva feeds on various species of St. Johns Wort, Found in card index

1897 Semiothisa wauaria Linn, V-Moth

Widely distributed at low density; larva feeds on leaves of currant bushes. Recorded in 1983.

1905 Pachycnemia hippocastanaria Hübn. Horse Chestnut

Well established and not uncommon in the south and south-west; a moth of heathland and it is resident on the local heathland; possibly a vagrant; larva feeds on heather. Found in card index.

1914 Ennomos fuscantaria Haw. Dusky Thorn

The species inhabits woodland and parkland and is not uncommon throughout England and Wales; can be confused with others of the same genus; larva feeds on Ash. Found in card index.

1926 Apocheima pilosaria D. & S. Pale Bridled Beauty

Generally distributed and common in England and Wales; the species has been recorded elsewhere; larva feeds on a variety of trees and shrubs. Recorded in 1985.

1932 Agriopis leucophaearia D. & S. Spring Usher

Widespread and generally common over much of England and Wales; larva feeds on Oak and sometimes Apple. Recorded in 1984.

1934 A. marginaria Fab. Dotted Border

Widespread and more or less common over the greater part of the British Isles. The species has been seen in Teignmouth; larva feeds on a variety of trees and shrubs. Recorded in 1982.

#### 1935 Erannis defoliaria Cl. Mottled Umber

The species is common almost everywhere; larva feeds on a variety of trees and shrubs. Recorded in 1985.

#### 1943 Boarmia roboraria Thunb. Great Oak Beauty

A local species found not uncommonly in southern England including Devon; normally a species of Oak woodland; larva feeds on Oak. Recorded in 1984.

1944 Serraca punctinalis Scop. Pale Oak Beauty

A woodland species that is not uncommon in the south and east of England but is local in the south-west; worn specimens of this species could be confused with *P. rhomboidaria*, Willow Beauty; larva feeds on Oak, Birch and occasionally Sallow and Sycamore, Found in card index.

#### SPHINGIDAE

#### 1986 Hyles euphorbiae Linn. Spurge Hawkmoth

"At Dawlish Warren on 1 July a male was found on palings and 5 July a fine female in a conservatory" (Lt. Col. H. Bridges) (French, 1949, Migration reports for 1948. *Entomologist* **82**: 106).

#### ARCTIIDAE

#### 2049 Eilema deplana Esp. Buff Footman

An inhabitant of woodland and downland but the moth is local in southern and south-west England; easily confused with *E. griseola*, the Dingy Footman; larva feeds on lichens and algae growing on trees and shrubs. Found in card index.

2051 Lithosia quadra Linn. Four-spotted Footman

An uncommon but regular migrant which is also locally resident in mature woodland in south-west England where the larvae feed on lichens. Recorded in 1986.

#### **NOCTUIDAE**

#### 2080 Euxoa obelisca D. & S. Square Spot Dart

Locally common around the coast from the Isle of Wight through Cornwall and into north Devon; possibility of confusion with the related *E. tritici*, the White-line Dart; the life history apparently unknown. Recorded in 1985.

2082 E. nigricans Linn, Garden Dart

Generally distributed throughout the British Isles but can be confused with *Xestia xanthographa*, the Square-spot Rustic. Larva feeds on a wide variety of wild and cultivated plants. Recorded in 1983.

2084 Agrotis cinerea D. & S. Light Feathered Rustic

Does occur in the south-west but is local and widespread; could have been misidentified with a banded form of *E. tritici*, the White-line Dart, or a dark variation of *A. clavis*, Heart & Club. Larva feeds on Wild Thyme and other low plants. Recorded in 1983.

2099 Actebia praecox Linn. Portland Moth

"Formerly taken at Dawlish Warren but although worked for has not been taken recently" (Stidson, 1951, *Lepidoptera of Devon*: 27); [1958] W.L. Coleridge (*D.A. Ent. Section* 11th report); larvae, 2.6.1957. G. Haggett (*D.A. Ent. Section*. 11th report).

2117 Paradiarsia glareosa Esp. Autumnal Rustic

Stitson, 1951, *Lepidoptera of Devon*: 27 Generally distributed throughout the British Isles; larva feeds on a wide variety of plants. Recorded in 1984.

2127 Xestia ditrapezium D. & S. Triple Spotted Clay

Locally widespread throughout much of Britain; can be confused with *X. triangulum*, the Double Square-spot larva feeds on Birch, Sallow, Bramble and other trees and shrubs. Recorded in 1986.

2130 X. baja D. & S. Dotted Clay

Generally distributed and often common throughout the British Isles where it inhabits heath and woodland; larva feeds on many trees and plants. Found in card index.

2133 X. sexstrigata Haw. Six-striped Rustic

Generally distributed throughout the British Isles; could be confused with *Diarsia rubi*, the Small Square-spot. Larva feeds on a variety of herbaceous plants. Recorded in 1986.

2135 X. agathina Dup. Heath Rustic

Widespread in the British Isles in suitable habitats; larva feeds on young shoots of heather. Recorded on 20.8.1987.

2136 Naenia typica Linn. The Gothic

Widespread over much of the British Isles but rarely common except in the Midlands; could be confused with *Tholera decimalis*, the Feathered Gothic. Larva feeds on a wide variety of trees and plants. Recorded in 1986.

2178 Tholera decimalis Poda. Feathered Gothic

Widespread and locally common over much of the British Isles; mutual confusion with *Naenia typica* is a possibility; larva feeds on a variety of grasses. Recorded in 1983.

2206 Mythimna putrescens Hb. Devonshire Wainscot

Very local in the south-west and rarely found outside Devon and Cornwall; usually a species of cliffs; larva feeds on coastal grasses. Recorded in 1984.

2214 Cucullia chamomillae D. & S. Chamomile Shark

E.D. Morgan and R.V. Solly (larvae), both in Stidson, *Lepidoptera of Devon*: 44; H.A. Kennard, 13.5.1961 (*D.A. Ent. Section* 14th report, p.117).

2208 Mythimna loreyi Dup. The Cosmopolitan

A migrant species which does appear along the south coast; larva feeds (in captivity) on Cock's-foot Grass. Recorded in 1984.

2247 Dichonia aprilina Linn. Merveille du Jour

Widespread and locally common in England and Wales in woodland and has been recorded at other sites in Devon; larva feeds on Oak. Recorded in 1982.

2250 Blepharita adusta Esp. Dark Brocade

Widely distributed, but local in the southern half of England but commoner in the north, the Midlands and Scotland. Probably not seen as the species can be confused with *brassicae* Cabbage Moth. A voucher would be needed. Recorded in 1983.

2252 Polymixis flavicincta D. & S. Large Ranunculus

Widespread and not uncommon in the southern half of England; recorded in Teignmouth and other sites; larva feeds on a wide variety of wild and cultivated plants. Recorded in 1985.

2260 Conistra rubiginea D. & S. Dotted Chestnut

A local woodland and wooded heathland species rarely found outside central southern and south-west England; larva feeds (in captivity) on leaves of fruit trees; has been found in the wild once on Apple. Recorded in 1986.

2277 Moma alpium Osb. Scarce Merveille du Jour

10.6.1956 by P. Crow per F.H. Lees (D.A. Ent. Section 9th report: 47).

2273 Xanthia togata Esp. Pink-barred Sallow

Widespread and moderately common over much of the British Isles; the species can be confused with *X. icteritia*, The Sallow; larva feeds on Sallow catkins and then low plants. Found in card index.

2300 Mormo maura Linn. Old Lady

Widespread and not uncommon in England; has been found in other localities during 1994. Larva feeds on a variety of trees and shrubs including Blackthorn, Hawthorn and Birch. Recorded in 1983.

2312 *Ipimorpha subtusa* D. & S. The Olive

Locally widespread throughout England and Wales but this specimen must have wandered; a voucher would be needed; larva feeds on Aspen and Poplar. Recorded in 1989.

2325 Apamea oblonga Haw, Crescent Striped

32

The V.C.H. give "taken at Dawlish Warren by Mr E.F. Studd" (Stidson. Lepidoptera of Devon: 33).

2331 A. unanimis Hb. Small Clouded Brindle

Locally widespread in England, Wales and Scotland, inhabiting damp woodland. fenland and marshy places; this species is easily confused with A. secalis, the Common Rustic: larva feeds on various grasses. Found in card index.

2333 A. anceps D. & S. Large Nutmeg

Widespread and sometimes locally common in the southern half of England, except the south-west where it is local, less frequent and coastal; can be confused with large specimens of Discestra trifolii. The Nutmeg, Larva feeds on various grasses. Recorded in 1982.

2334 A. sordens Rustic Shoulder-knot

A widespread and usually common species throughout the British Isles but so far not recorded in 1994; larva feeds on Cock's-foot and other grasses. Recorded in 1986.

2335 A. scolopacina Esp. Slender Brindle

Locally widespread over much of England and Wales where it inhabits woodland; if the species was seen then it must have been a vagrant. This species can be confused with A. secalis; larva feeds on various grasses. Found in card index.

2358 Amphipoea fucosa Frever Saltern Ear

A locally common and mainly coastal species sporadically distributed over much of Britain; larva feeds in the roots and bases of Annual Meadow-grass and other grasses. Recorded in 1982.

2360 A. oculea Linn, Ear Moth

Widespread and generally not uncommon over much of the British Isles; larva feeds in the roots and stems of Tufted-hair Grass and other grasses; and also stems of Butterbur, Recorded in 1982.

2371 Archanara dissoluta Treit, Brown-veined Wainscot

12.8.1961, H.A. Kennard (D.A. Ent. Section 14th report: 116).

2373 A. sparganii Esp. Webb's Wainscot

Well established in south-east England but more local in its range westward to Cornwall; quite possibly a vagrant; larva feeds in the stems of Common Reed-Mace. Found in card index.

2400 Helicoverpa armigera Hb. Scarce Bordered Straw

A migrant species which occurs from time to time along the south coast including Devon; is also imported with tomatoes and cut flowers; larva feeds on garden Geranium and other plants. Recorded in 1982.

2403 Heliothis peltigera D. & S. Bordered Straw

A migrant species which occurs more commonly than the previous species; larva breeds here and feeds on Sticky Groundsel, garden Marigolds and common Rest Harrow but cannot survive the winter. Recorded in 1986.

2410 Lithacodia pygarga Hufn. Marbled White-spot

Widespread and moderately common in the southern half of England and has been recorded in Devon during 1994; larva feeds on Purple Moor Grass and other grasses. Recorded in 1984.

2432 Trichoplusia ni Hb. The Ni Moth

A migrant species being an uncommon and irregular visitor, found mostly in southern England; larva feeds on Marigold and Sea Rocket, and in captivity Lettuce and Cabbage. Recorded in 1982.

2482 Schrankia taenialis Hb. White-line snout

Widely distributed, but local, over the southern half of England; the species has been seen at other sites, in Devon, during 1994; larval stages have not been found in the wild but in captivity will feed on Lettuce and flowers of heathers, and later on sliced runner beans. Recorded in 1984.

#### Part 3

# A List of species which have been recorded from Dawlish Warren, but whose occurrence is thought unlikely.

In this brief listing, comments are made on species whose presence has been recorded either in the literature or in records kept by the Nature Reserve. All are felt to be erroneous and based upon misidentification.

1694 Scopula ternata Schrank. Smoky Wave

Exmoor is the best-known locality. Being a moorland species it is unlikely to have been found on Dawlish Warren. Possibly confused with *S. immutata*, Lessercream Wave. Recorded in 1983.

- 1701 *Idaea sylvestraria* Hb. Dotted-border Wave
  In Devon, almost entirely restricted to well-established heathland. Possibly confused with *I. subsericeata*. Satin Wave. Recorded in 1983 and 1985.
- 1761 *Chloroclysta miata* Linn. Autumn-green Carpet
  Recorded from Dartmoor. It is unlikely to be resident. Possibly confused with *C. siterata*, Red-green Carpet, which is known from the Warren. Recorded in 1982 and 1986.
- 1775 *Colostygia multistrigaria* Haw. Mottled Grey
  Only one record made at the time that *T. carpinata*, Early Tooth-stripe was on the wing, and with which it was probably confused. Found in card index.
- 1815 Eupithecia abietaria Goeze. Cloaked Pug A colony used to occur in the New Forest otherwise its headquarters is in Northumberland. Recorded in 1984.
- 1888 *Ligdia adustata* D. & S. Scorched Carpet Probably confused with *C. cuculata*, Royal Mantle. Recorded in 1985.
- 1908 *Epione paralellaria* D. & S. Dark Bordered Beauty
  A Yorkshire species and not known in the south. Probably misidentification of *E. repanaria*, Bordered Beauty. Recorded in 1984.
- 2031 *Leucoma salicis* Linn. White Satin Likely to be a misidentification, or possibly a vagrant. Recorded in 1984.
- 2083 *Euxoa cursoria* Hufn. Coast Dart
  Resident on the coast from Suffolk to Northumberland, and on the west coast from Cheshire to Cumberland. Possible confusion with either *E. tritici* White-line Dart or *Agrotis ripae* Sand Dart. Recorded in 1986 and 1989.
- 2104 Standfussiana lucernea Hufn. Northern Rustic
  A species of rocky cliffs which occurs from the Isle of Wight westwards to
  Cornwall and North Devon. Possibly a vagrant. Recorded in 1984.
- 2108 *Noctua orbona* Hufn. Lunar Yellow Underwing

  The present strongholds of this species are in the Breck district of East Anglia, and the eastern border counties of England and Scotland. There are reports of this species occurring on Dartmoor and it is found on the Wiltshire Downs. Doubtless confused with *N. comes*. Recorded in 1984 and 1986.
- 2185 *Orthosia populeti* Fabr. Lead-coloured Drab

  The foodplant, Aspen, is absent. Possibly confused with *O. incerta* Clouded Drab.

  Recorded in 1986.
- 2209 Senta flammea Curt. Flame Wainscot This species occurs in the Cambridgeshire fenlands and Norfolk Broads; Probably confused with Chilodes maritimus ab. wisemariensis Silky Wainscot. Recorded in 1983.

## 2249 Blepharita satura D. & S. Beautiful Arches

Status of this species in Britain is poorly documented and confused by a plethora of doubtful records. Could be confused with *A. monoglypha* Dark Arches. Recorded in 1982.

### 2329 Apamea furva britannica Cock. The Confused

Very local in the south-west; in rocky places by the sea. This species is very easily confused with *A. remissa* Dusky Brocade. Recorded in 1983.

### 2332 A. pabulatricula Brahm. Union Rustic

Formerly resident but now considered extinct; used to be found in the midlands and north-east around Lincolnshire and Yorkshire. Possibly confused with a large specimen of *M. furuncula* Cloaked Minor, Recorded in 1983.

## 2346 Photedes morrisii Dale. Morris's Wainscot

Recorded in 1992 by Mr A. Kolaj but later found to be a worn A. phragmitidis.

### 2347 P. extrema Hb. Concolorous Wainscot

The main stronghold of this species is Huntingdonshire, Northamptonshire and mid-Lincolnshire. Possibly confused with *P. pygmina* Small Wainscot. Recorded in 1982 and other years.

### 2351 P. brevilinea Fenn. Fenn's Wainscot

This species is confined to East Anglia. Could be confused with *A. sparganii* Webb's Wainscot, but even this species is not that common in Devon. Recorded in 1984

### 2494 Paracolax derivalis Hb. Clay Fan-foot

The species occurs in south-east England. Possibly confused with *C. liniarea* Clay-triple Lines. Recorded in 1984.

#### Index

abietaria Goeze	1815	areola Esp.	2243	caja Linn.	2057
abruptaria Thunb.	1936	argiolus Linn.	1580	cardamines Linn.	1553
absinthiata Cl.	1830	argus Linn.	1571	cardui Linn.	1591
advenella Zinck.	1439	armigera Hb.	2400	carpinata Borkh.	1881
adusta Esp.	2250	asinalis Hb.	1397	capucina Linn.	2008
adustata D. & S.	1888	atalanta Linn.	1590	centaureata D. & S.	1825
aegaria Linn.	1614	augur Fabr.	2114	cerasi Fabr.	2187
aescularia D. & S.	1663	aurantiaria Hb.	1933	cespitis D. & S.	2177
aestivaria Hb.	1669	aversata Linn.	1713	chamomillae D. & S.	2214
agathina Dup.	2135	badiata D. & S.	1746	chenopodiata Linn.	1732
agestis D. & S.	1572	baja D. & S.	2130	chlorosata Scop.	1902
albicolon Hb.	2152	batis Linn.	1652	christyi Allen	1796
albula D. & S.	2076	bembiciformis Hb.	0371	chrysitis Linn.	2434
albulata D. & S.	1807	betularia Linn.	1931	chrysoprasaria Esp.	1673
alchemillata Linn.	1803	bicolorata Hufn.	2164	chrysorrhoea Linn.	2029
alni Linn.	2281	bicruris Hufn.	2173	cinerea D. & S.	2084
alniaria Linn.	1913	bidentata Cl.	1920	circellaris Hufn.	2262
alpinella Hb.	1325	bilineata Linn.	1742	citrata Linn.	1762
alpium Osb.	2227	binaria Hufn.	1646	clavipalpis Scop.	2389
alsines Brahm.	2381	hiselata Hufn.	1702	clavis Hufn.	2088
alternata Mull.	1738	bistortata Goeze	1947	clorana Linn.	2418
alternaria Hb.	1890	blanda D. & S.	2382	c-nigrum Linn.	2126
ambigua D. & S.	2384	brassicae Linn.	1549	comes Hb.	2109
anceps D. & S.	2333	brassicae Linn.	2154	comma Hb.	2205
anceps Goeze	2005	brevilinea Fenn	2351	complana Linn.	2047
angustea Curt.	1342	britannica Turn.	1769	confusa Hufn.	2171
antiopa Linn.	1596	brumata Linn.	1799	conigera D. & S.	2192
antiqua Linn.	2026	bucephala Linn.	1994	contaminella Hb.	1323
aprilina Linn.	2247	c-album L.	1598	convolvuli Linn.	1972

coronata Hufn.	1378	forficalis Linn.	1356	lichenaria Hufn.	1945
costalis Fabr.	1413	forficella Thunb.	1329	lichenea Hb.	2255
coryli Linn.	2425	fraxinata Crewe	1849	ligustri D. & S.	2291
crenata Hufn.	2326	fucosa Freyer	2358	linariata D. & S.	1816
crepuscularia D. & S.	1948	fuliginosa Linn.	2064	literosa Haw.	2342
cribrella Hb.	1458	fulvata Forst.	1765	lithoxylea D. & S.	2322
crocealis Hb.	1385	furcata Thunb.	1777	litoralis Curt.	2201
croceus Geoffr.	1545	furcula Cl.	1997	liturata Cl.	1893
cruda D. & S.	2182	furuncula D. & S.	2341	loreyi Dup.	2208
cuculata Hufn.	1736	furva D. & S.	2329	lota Cl.	2263
cucullatella Linn.	2077	fuscantaria Haw.	1914	lotella Hb.	1432
culmella Linn.	1293	fuscovenosa Goeze	1705	lubricipeda Linn.	2060
cultraria Fabr.	1647	galathea Linn.	1620	lucernea Linn.	2104
cursoria Hufn.	2083	galiata D. & S.	1740	lucipara Linn.	2305
curtula Linn.	2019	gamma Linn.	2441	lunaedactyla Linn.	1495
decimalis Poda	2748	geminipuncta Haw.	2370	lunosa Haw.	2270
defoliaria Cl.	1935	geniculea Haw.	1309	lupulinus Linn.	0017
dentaria Fabr.	1917	genistella Dup.	1443	luridata Hufn.	1734
deplana Esp.	2049	glareosa Esp.	2117	lurideola Zinck.	2050
derivalis Hb.	2494	gnoma Fabr.	2006	luteolata Linn.	1906
derivata D. & S.	1747	gothica Linn.	2190	lutea Hufn.	2061
		O .		lutosa Hubn.	2375
designata Hufn.	1722	gracilis D. & S.	2186		
didyma Esp.	2343	graminis Linn.	2176	lychnidis D. & S.	2267
dilutata D. & S.	1795	griseata Peters	1682	macilenta Hb.	2264
dimidiata Hufn.	1708	grisealis D. & S.	2492	marginepunctata Goeze	
dissoluta Treit.	2371	griseola Hb.	2044	margaritata Linn.	1961
ditrapezium D. & S.	2127	grossulariata Linn.	1884	marginaria Fabr.	1934
dodonaea D. & S.	2014	halterata Hufn.	1879	marginata Linn.	1887
dominula Linn.	2068	haworthiata Doubl.	1813	maritimus Tausch.	2391
dromedarius Linn.	2000	hippocastanaria Hubn.		matura Hufn.	2303
duplaris Linn.	1657	hortulata Linn.	1376	maura Linn.	2300
elinguarua Linn.	1921	humuli Linn.	0014	megacephala D. & S.	1278
elpenor Linn.	1991	icarus Rott.	1574	megera Linn.	1615
emarginata Linn.	1712	icterata Vill.	1838	mellinata Fabr.	1757
epomidion Haw.	2327	icteritia Hufn.	2274	mendica Fabr.	2120
eremita Fabr.	2248	imitaria Hb.	1690	meticulosa Linn.	2306
erosaria D. & S.	1915	immutata Linn.	1692	mercurella Linn.	1344
euphoibiae L.	1986	impluviata D. & S.	1778	miata Linn.	1761
exanthemata Scop.	1956	impura Hb.	2198	micacea Esp.	2361
exclamationis Linn.	2089	incerta Hufn.	2188	miniata Forst.	2037
exigua Hb.	2385	indigata Hb.	1844	minima Haw.	2345
expallidata Doubl.	1833	inquinatella D. & S.	1306	multistrigaria Haw.	1775
extrema Hb.	2347	interjecta Hb.	2112	monacha Linn.	2033
falcataria Linn.	1648	intricata Zell.	1827	monodactyla Linn.	1524
fasciaria Linn.	1962	io Linn.	1597	monoglypha Hufn.	2321
fasciuncula Haw.	2340	ipsilon Hufn.	2091	montanata D. & S.	1727
ferrago Fabr.	2193	jacobaeae Linn.	2069	morpheus Hufn.	2387
festucae Linn.	2439	janthe D. & S.	2111	morrisii Dale	2346
ferrugata Cl.	1725	jota Linn.	2443	muralis Forst.	2295
ferrugalis Hb.	1395	jurtina Linn.	1626	napi Linn.	1551
ferruginea Esp.	2302	lacertinaria Linn.	1645	nana Hufn.	2147
filipendulae Linn.	0169	lactearia Linn.	1674	nanata Hb.	1846
fimbriata Schreb.	2110	lacustrata Panzer	1338	nebulata Scop.	1874
flammea Curt.	2209	l-album Linn.	2202	nebulosa Hufn.	2150
flammealis D. & S.	1424	latistria Haw.	1307	neustria Linn.	1634
flavago D. & S.	2364	latruncula D. & S.	2339	ni Hb.	2432
flavicincta D. & S.	2252	legatella D. & S.	1866	nigra Haw.	2232
javiencia D. & S.	4434	reguletiu D. oc s.	1000	111574 11411.	
flavofasciata Thunh		lenoring Linn	2280	nioricans Linn	2082
flavofasciata Thunb.	1808	leporina Linn.	2280	nigricans Linn.	2082
flavofasciata Thunb. flexula D. & S. fluctuata Linn.		leporina Linn. leucophaearia D. & S. libatrix Linn.	2280 1932 2469	nigricans Linn. noctuella D. & S. nubilalis Hb.	2082 1398 1375

nupta Linn.	2452	puta Hb.	2092	straminella D. & S.	1304
obelisca D. & S.	2080	putrescens Hb.	2206	strigilis Linn.	2337
obeliscata Hb.	1768	putris Linn.	2098	suasa D. & S.	2159
oblonga Haw.	2325	pygarga Hufn.	2410	subfusca Haw.	1332
obstipata Fabr.	1719	pygmina Haw.	2350	subfuscata Haw.	1837
ocellata Linn.	1770	pyraliata D. & S.	1758		1709 2312
(Cosmorhoe)	1752	pyrina Linn.	0161	subtusa D. & S.	1839
ocellata Linn.	1000	pyritoides Hufn.	1653	succenturiata Linn.	1750
(Smerinthus)	1980	quadra Linn.	2051	suffumata D. & S.	
ochrearia Rossi.	1968	quadrifasiata Cl.	1726 2067	sylvestraria Hb.	1701 1526
ochroleuca D. & S.	2352	quadripunctaria Poda	1912	sylvestris Poda	1910
ocularis Linn.	1654	quercinaria Hufn. quercus Linn.	1912	syringaria Linn. taenialis Hb.	2482
oculea Linn. odites Hb.	2360 2226	4	1637	tarsipennalis Treit.	2489
		(Lasiocampa)		4	1958
oleracea Linn.	2160 1774	quercus Linn. (Quercusia	1550	temerata D. & S. tenuiata Hb.	1811
olivata D. & S.		rapae Linn.	1860	ternata Schrank	1694
ophiogramma Esp.	2336	rectangulata Linn.	2330	testacea D. & S.	2353
orbona Hufn.	2108	remissa Hb.	1907	testacea D. & S.	1919
oxycanthae Linn.	2245	repandaria Hufn.	1907	thalassina Hufn.	2158
pabulatricula Brahm	2332	repandata Linn.			
pallens Linn.	2199	rhomboidaria D. & S.	1546	tithonus Linn.	1625
pallida Curt.	1336	rnombolaaria D. & S.	1937	togata Esp.	2273 2299
palpina Cl.	2011		1940	tragopoginis Cl.	
papilionaria Linn.	1666	ripae Hb.	2093	transversata Hufn.	1792
paralellaria D. & S.	1908	rivata Hb.	1739	trapezina Linn.	2318 2007
pascuella Linn.	1294	rivularis Fabr.	2166	tremula Cl.	
pectinataria Knoch	1776		1943	triangulum Hufn.	2128
peltigera D. & S.	2403	roborella D. & S.	1452	tridens D. & S.	2283
pennaria Linn.	1923	ruberata Freyer	1779	trifolii Hufn.	2145
perlella Scop.	1302	rubi Linn.	1555	trifolii Esp.	0170
persicariae Linn.	2155	rubi View.	2123	trigrammica Hufn.	2380 2450
phlaeas Linn.	1561	rubidata D. & S.	1735	triplasia Linn.	1305
phoeniciata Ramb.	1855	rubiginea D. & S.	2260	tristella D. & S. tritici Linn.	2081
phragmitidis Hb.	2377	rufa Haw.	2379		1764
pilosaria D. & S.	1926	rufifasciata Haw.	1862	truncata Hufn. trux Hb.	2090
pinella Linn.	1313	rumicis Linn.	2289 1405	trux fib. turca L.	2191
pisi Linn.	2163 1867	ruralis Scop. sacraria Linn.	1716	typica Linn.	2136
plagiata Linn. plecta Linn.	2102	salicis Linn.	2031	umbra Hufn.	2399
porata Linn.	1679	sambucaria Linn.	1922	umbratica Linn.	2216
populeti Fabr.	2185	satura D. & S.	2249	umoranca Enni. unanimis Hb.	2331
populi Linn. (Laothoe)		saucia Hb.	2119	undulata Linn.	1789
populi Linn. (Laoinoe)	1901	saxicola Vaugh.	1484	urticae Linn.	1593
(Poecilocampa)	1631	scolopacina Esp.	2335	vaccinii Linn.	2258
porcellus Linn.	1992	secalis Linn.	2343	vaceinii Einii. v-ata Haw.	1858
porphyrea D. & S.	2118	segetum D. & S.	2087	venata Brem. & Grey	1531
potatoria Linn.	1640	semele D. & S.	1621	vestigialis Hufn.	2085
praecox L.	2099	sericealis Scop.	2474	versicolor Borkh.	2338
praecox E.  prasina D. & S.	2138	sexalata Retz.	1882	villica Linn.	2058
proboscidalis Linn.	2477	sexstrigata Haw.	2133	viminalis Fabr.	2225
pronuba Linn.	2107	silaceata D. & S.	1759	viretata Hb.	1883
pruinata Hufn.	1665	similis Fuess.	2030	virgata Hufn.	1718
prunalis D. & S.	1390	siterata Hufn.	1760	viridaria Cl.	2470
prunata Linn.	1754	sociella Linn.	1428	vitalbata D. & S.	1781
psi Linn.	2284	sordens Hufn.	2334	vulgata Haw.	1834
pudibunda Linn.	2028	spadicearia D. & S.	1724	w-album Knoch	1558
punctalis Fabr.	1414	spanicearia D. & S. sparganii Esp.	2373	wauria Linn.	1897
punctaria Linn.	1680	stagnata Don.	1350	w-latinum Hufn.	2157
punctinalis Scop.	1944	stellatarum Linn.	1984	xanthographa D. & S.	2134
pusaria Linn.	1955	straminea Treit.	2197	ziczac Linn.	2003
r	-,				

- sycamores; Laxey Wheel (SC4385), 23 July 1995, abundant on one sycamore and present in small numbers on another; Tynwald (SC2882), 24 July 1995, common on sycamore.
- Phyllocoptes goniothorax (Nalepa). Ballaglass Glen (SC4689), 26 July 1995, common on hawthorns Crataegus monogyna Jacq.; Tynwald (SC2882), 24 July 1995, scarce on hawthorns. Popularly known as the concealed erineum.
- *Phytocoptella avellanae* (Nalepa). Laxey Wheel (SC4385), 23 July 1995, big bud frequent on several hazels *Corylus avellana* L.
- *Phytoptus sorbeus* (Nalepa). Ballaglass Glen (SC4689), 26 July 1995, very scarce on a rowan. Popularly known as the incurved mountain ash erineum.
- *P. sorbi* Canestrini. Douglas (SC3876), 24 July 1995, abundant on a whitebeam *Sorbus intermedia* (Ehrh.) Pers. near the Manx Museum; Tynwald (SC2882), 24 July 1995, scarce on rowan.

## Acknowledgements

The author is indebted to Dr Larch Garrad for her generous assistance in obtaining literature on Manx galls and to Dr I.D. Wallace and Mrs M.A. O'Connor for their help with the fieldwork.

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## Hazards of butterfly collecting - Syria, August, 1970 - Secret Police

In 1970, I left Copenhagen for Beirut with my girlfriend in a brand new, bright orange Volkswagon Beetle. I had a total of only 2000km of driving experience behind me, but that was the least of our worries. We were to pass through Syria.

This was three years after the six-day war. No tourists went anywhere near the Middle East, and Syria had a terrible reputation for xenophobia, repression and terrorism. There were no diplomatic links between Syria and western Europe. Our Syria visas were issued by the Lebanese Embassy in London, a somewhat curious arrangement since Syria and Lebanon never had diplomatic links.

Received wisdom in Denmark was that we could not get into Syria, and that we would get killed or detained if we did. And as to what we could expect if we fell into the hands of the Syrian secret police, the Mukhabarat, well . . . better not think about that. We had even gone so far as to try to see if there were any ferries from Athens, Istanbul or Adana to Lebanon, but no such luck.

For the first three thousand kilometres through Europe all went well, and I began to consider myself an experienced driver. Hitting the crazy driving in Istanbul rudely disabused me of that, and driving among the hordes of lorries in the Taurus Mountains on the way to Adana remains one of my most frightening memories. But it was still Syria that loomed ahead.

"No problem!", said the Turkish frontier guard. We hoped he was right. The Syrian border post was the very caricature of how such an establishment should look. The most lowly staff wore more medals and epaulettes than a Danish general. Guns were everywhere. We were the only Europeans.

"Passeport" – no s'il vous plâit. "No visa."

"Excuse me, there is a visa . . . I was in the Lebanese embassy in London."

"Visa no good."

"But they said . . . "

"Visa no good."

Stand-off. I drew a deep breath. This is the type of situation where you have two options: be very assertive, or be very obsequious. Before I could make my choice, the officer started banging his stamps, hard: "Pas de probleme, see no money." He pointed to four or five "gratis" stamps. We were in Syria. Hurdle one had been overcome.

We proceeded to the port of Latakia and checked into an old colonial-style hotel. Our room was huge, so was the bathroom. The bath was an old contraption with bronze lion's feet and gilded taps, and big enough for both of us. As soon as we were well ensconced in a piping hot bath, there was a knock on the door. Gathering a towel, I went to see who it was. "Mukhabarat", came the answer. My heart sank. I struggled into some clothes and opened the door.

Outside were three caricatures of secret policemen. In fact, they reminded me of the way Hergé drew such specimens in the Tin-tin books, but this was for real. I motioned them to sit down in the oversize armchairs and was somewhat relieved when they did.

"We have your passports", said the boss-man, withdrawing them from his back pocket, "You are Larsen, she is Hansen. How?". More relief . . . this began to look like the sort of thing you talk your way out of. I began a long exposé about Danish marriage customs, how women had their own passports, how we did not necessarily insist that married women changed surnames. No, of course I did not carry my marriage certificate — anyhow it was in Danish. We were on our way to take up a responsible, international post in Beirut. Could they really imagine I would arrive in Beirut with a woman who was not my wife? They finally left. I joined my girlfriend in the bath. She had hardly been able to stifle her laughter. Hurdle number two had been surmounted.

We left for Lebanon the next morning, arriving at Aarida at lunchtime. The last hurdle in a dangerous mission.

"Passeport" – still no please. They were examined in ominous silence for an inordinate length of time. Finally they were slapped down on the desk. "We cannot allow you to leave Syria", the officer said in a deep, ominous voice. My heart sank again. They couldn't possibly have been in touch with the Danish marriage licensing authorities – after all there were no diplomatic relations.

"What is the problem?", I enquired, in what I hoped was a both polite and assertive manner.

"You have been here two days", said the officer, breaking into a smile, "you have not seen Damascus and Aleppo, you have not seen Palmyra, you have not seen the Crac de Chevaliers. How can you go to Syria and not see our wonderful country". We assured him that we would, as soon as we were installed in Beirut. We were out of Syria.

I have visited Syria many times since. Damascus – and especially Aleppo – are wonderful cities; so was Homs until the security forces destroyed it. Palmyra and Crac de Chevaliers are amongst the finest sites in the Levant, the people are friendly, and the food fantastic. I'd still hate to tangle with the Mukhabarat though.— TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 8PL.

# Red Admiral butterfly *Vanessa atalanta* (L.) (Lep.: Nymphalidae) in mid-February

A Red Admiral in fine condition was seen by K.C. Lewis flying and settling in warm sunshine at 11.15am on 14.ii.1996 at the edge of Chalk Wood. Bexley, West Kent. February records of this butterfly appear to be few; another recent one is of a specimen flying at Firestone Copse, Havenstreet,

Isle of Wight, 2.ii.1995 (S.A. Knill-Jones, *Ent. Rec.* **107**: 252). The author remarks that this "supports further evidence that this species hibernates in this country during mild winters". It is noteworthy that in the case of Mr Lewis's sighting, much of the winter preceding the butterfly's appearance had been anything but mild, reinforcing the conclusion just stated and suggesting that *V. atalanta* can tolerate a greater degree of winter cold than has usually been supposed. However, C.W. Plant (1987, *The Butterflies of the London Area*: 106) expresses the opposite view, that "apart from isolated incidents in the West Country, it is thought to be quite unable to survive the British winters . . .", and indeed it is true that instances such as the two above do not of themselves prove resumption of normal activity in the spring.—A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

## Red Admirals Vanessa atalanta (L.) (Lep.: Nymphalidae) at sugar by day

At my home address in Banffshire, a line of 24 fenceposts bordering a marsh with scrub is kept permanently sugared between early spring and late autumn. When present, Red Admirals regularly feed at this sugar in the daytime, especially in autumn. Numerous instances include six at once on 10.x.1994, and eight on 16.viii.1995. On the latter date there was sunlit *Buddleia* in full bloom only a few metres away.

As the sugar is spread on the north side of the posts, and some of the posts themselves are overhung by trees, the Red Admirals often have to feed in the shade. They do so, with closed wings, even when the weather is fairly cool. Generally, there is only one butterfly per post, with some hint of territoriality or guarding if another intrudes. Occasionally, one roosts overnight on its fencepost.

There are numerous references in the literature to Red Admirals partaking of over-ripe fruit or sap from wounded trees, but in an admittedly casual search I could find no reference to them coming to sugar. Perhaps few observers check their's during the daytime? No other species of butterfly has yet been seen at sugar at this site, but afternoon visits by the noctuids *Oligia fasciuncula* and *Celaena haworthii* are not uncommon.— Roy Leverton, Whitewalls, Ordiquhill, Cornhill, Banffshire AB45 2HS.

# The Peacock butterfly Inachis io (L.) (Lep. Nymphalidae) in Shetland

Although not always thought of as a migrant, the Peacock *Inachis io* spends most of its adult life on the move. According to Baker (1984, in Vane-Wright & Ackery (Eds.) *The Biology of Butterflies*), virtually all individuals migrate steadily through their lifetime, alternating cross-country travel with bouts of feeding, ovipositing, territoriality and basking. Nevertheless, the species is obviously not normally as much a migrant as its famous relatives,

the Red Admiral *Vanessa atalanta* (L.) and Painted Lady *Cynthia cardui* (L.) both of which must migrate to southern wintering areas to survive. In contrast, the Peacock can successfully overwinter in northern areas and it does not normally wander much outside its established range. In Shetland for example, whereas the Red Admiral is an annual migrant and the Painted Lady is almost as common, the Peacock is a rare vagrant, although there have been notable influxes in both 1994 and 1995.

To date there are 43 records for which details have been traced, the first an unpublished record on an unknown date at Houbie on Fetlar in 1961 (BRC Data). Another was seen near Skaw on Unst in late August 1969 (Rushton, 1971. *Ent. Rec.* **83**: 397).

The first influx into Shetland occurred in 1975 with eight records collected and published by Kinnear (1976, *Ent. Gazette* 27: 137). These were mainly in August at Bluemull on Unst on 4th, Fetlar on 9th, Cunningsburgh on 10th, Foula on 11th, Skerries on 24th and Mid Yell on 25th with later records at Sumsburgh Head on 3 September and Burravoe on 1 November. A record of one flying in sunshine at Herra on Yell on 6 January 1976 (A. Gear) was not published by Kinnear but obviously relates to an individual from the 1975 influx attempting to overwinter.

Over the next 15 years the species returned to extreme rarity with the only records being singles on Fair Isle on 14 and 28 August 1983 (Fair Isle Bird Observatory (FIBO)) which given the mobility of this species presumably related to different individuals.

Since 1991 the species has been annual. One was found dead inside a partly built building at Scalloway on 28 November 1991 (Dalziel, 1992. *Shetland Naturalist* 1: 56), another was seen at Frakkafield near Lerwick on 25 May 1992 (P. Barry) and a third was found hibernating amongst imported timber in Lerwick in March 1993 (*per J. Blackadder*).

In 1994 there was an influx involving 13 individuals. A very early record came from Burravoe on Yell on 4 July (the late C. Guy). The main influx was in August with two at Spiggie in mid-month (J. Morton) and singles on Fetlar on 15th (RSPB), Grutness (J. Clifton), Scatness (H. Harrop) and Burravoe, Yell (per C. Guy) on 17th, Noss NNR on 21st with the same individual on Bressay on 22nd (SNH), Sumburgh Hotel on 22nd (A. McCall), Foula from 22nd until 2 September (S. Gear) and a new individual on Noss NNR on 30th (SNH). There was a straggler at Eswick on 7 September (T. Rogers) and another found dead inside a building at Haroldswick in early December (J. Burgess).

There were even more records in 1995 involving about 15 individuals. The first was at Scalloway on 29 May (*per J. McKee*) with another early record at Spiggie in early July (J. Morton) and a third on Fair Isle on 16 July (FIBO). At the end of July there were singles on Fair Isle (FIBO) and Whalsay (K. Simpson) on 27th (the latter until 1 August), at Baltasound on

29th (M. Pennington) and at Scalloway on an unknown date (*per J. McKee*). Further butterflies appeared in August with two on Fair Isle on 9th (FIBO) and singles at Noness on about the 10th (H. Towll), Fetlar on 12th and 18th (D. Suddaby), Baltasound on 17th (M. Pennington), Fair Isle on 17th and 18th (FIBO) and Noss NNR on 18th and 30th (SNH).

At least one of these records, in 1993, obviously refers to an insect brought in by man, while the same could apply to the 1991 record, although it could have arrived naturally and chosen the half-built building as a hibernation site because if its easy access. Most of the rest of the records involve obvious and marked influxes – nine in 1975/76, 13 in 1994 and 15 in 1995. Excluding these influxes and the possibility of imported individuals, there are only four other records (1961, 1969, 1983 and 1992). However, it is highly probable that other records have either gone unrecorded or have not been traced – for example Sheila Gear on Foula believes she has seen three on the island over the years, although details of only two have been traced and included above.

The great majority of Shetland records are of second brood adults recorded between mid-July and early September. In all 33 of the 42 dated records fall in this period. Four records fall between 1 November and 6 January and obviously involve individuals attempting to hibernate in Shetland. The sole March record was probably imported while hibernating. Spring records are rare, suggesting successful hibernation does not occur, with singles on 25 May 1992 and 29 May 1995. The 1992 record appeared during an obvious immigration of Red Admirals, while the three other regularly recorded Shetland vanessids were all recorded on the same day as the 1995 record. The two remaining records, in early July in 1994 and 1995 are also probably best considered as late spring migrants as they are too early to be part of the summer brood.

In Scotland the Peacock is largely restricted to the south of the country with most records north of the central belt concerning migrants or wanderers (Thomson, G., 1980. *The Butterflies of Scotland*. Croon Helm). Records in the far north of Scotland are very few. In Orkney there was only one certain record, two in 1939 (Lorimer, R.I., 1983. *The Lepidoptera of the Orkney Islands*. Classey), prior to an influx of six in 1994, with several more in 1995 (S. Gauld and M. Gray, *pers. comm.*). The 1994 influx also reached Faroe, where there were five in 1994 (S. Kaaber, *pers. comm.*). My thanks are extended to all the recorders who are credited where appropriate.

– M.G. Pennington, Shetland Entomological Group, 9 Daisy Park, Baltasound, Unst, Shetland ZE2 9EA.

# THE SPHINGIDAE (LEPIDOPTERA) OF THE PUNJAB PROVINCE OF PAKISTAN

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## **Summary**

ADULT SPHINGID MOTHS were collected from various localities of the Punjab Province, *viz.*, Bahawalpur, Faisalabad, Kasur, Jhelum, Lahore, Lala Musa, Layyah, Murree, Islamabad and Sialkot during 1990-91. These collections yielded 15 species in 13 genera and two subfamilies. Due to an inadequate description the species *Pergesa elpenor rivularis* (Boisduval) has been redescribed.

#### Introduction

The members of the family Sphingidae are commonly called hawk moths, sphinx moths or hornworms. The name sphinx was first used by Reaumur (1736) for the English Privet Hawkmoth. Later on Linnaeus (1758) included *sphinx* as genus under the family Sphingidae.

The Sphingidae of India were first classified by Hampson (1892) on the basis of external visible characters. Rothschild and Jordan (1903) found that the classifications of previous authors were impracticable for the identification of hawkmoths and hence divided the family into two groups, Semanophorae and Asemanophorae.

Carcasson (1968) treated these two divisions as two subfamilies. Hodges (1971) indicated that these two subfamilies were not based on the rules of the code of Zoological Nomenclature. Therefore, he replaced them with Sphinginae and Macroglossinae.

The sphingid moths in the Indo-Pakistan subcontinent have been observed feeding on field crops such as gram, sesamum, sugar cane and tobacco. vegetables like potato and cucurbits, fruit trees like walnut, grape vines and jaman and ornamental plants, *viz.*, obander and morning glory. The imagines have been noted to enter the beehives to rob them of honey and some species are pollinators of certain cacti and orchids (Hodges, 1971).

These moths have been fairly well studied in the undivided India, but no taxonomic work has been done on them in Pakistan. In view of this, the present taxonomic studies on the Sphingidae of the Punjab Province have been carried out.

#### Materials and methods

Adult moths were collected with the help of a hand-net from the light spots from various localities, *viz.*, Bahawalpur, Faisalabad, Kasur, Lahore, Lala Musa, Layyah, Murree, Islamabad, Jhelum and Sialkot of the Punjab Province during 1990-91 (Fig. 1). These collections were supplemented with

specimens from the student collection, Department of Agricultural Entomology, University of Agriculture, Faisalabad.

The specimens were placed in a wax-filled petridish and identified to specific level. For venational studies the wings were permanently cleared of the scales by treating them with 95% ethanol, 10% hydrochloric acid and an aqueous solution of sodium chloride and sodium hypochlorite with distilled water, and the wings were mounted on slides in Hoyer's solution (Borrer *et al.*, 1989). For a temporary suppression of the scales from various body parts, a drop of xylene was used. In order to study the characters of the labial palpi, the latter were opened or stretched with dissecting needles.

The measurements (from base to apex) of forewings were taken with finely pointed dividers and then their means  $\bar{x}$  and standard deviations were worked out. The terminology of Rothschild and Jordan (1903) was followed. The entire collection has been deposited in the Insect Museum, Department of Agricultural Entomology, University of Agriculture, Faisalabad.



Fig. 1. Localities of the Punjab Province where sphingid moths were collected during 1990-1991.

## Checklist of the sphingid moths

# Family Sphingidae subfamily Sphinginae

### Tribe Acherontiini

Acherontia lachesis (Fabricius)

Forewing length:  $\delta x = 50.5 \text{ S} = 0.50 \text{ (3 specimens)}$ 

 $\Im x = 61 (1 \text{ specimen})$ 

Material examined: Murree 13.19.17.vii.91: 29.23.vii.91.

A. styx Westwood

Forewing length:  $\delta x = 42.77 \text{ S} = 2.44 \text{ (11 specimens)}$ 

9x = 49.13 S = 2.53 (14 specimens)

Material examined: Faisalabad 7♂, 20.vi.90, 26.vi.90, 9.ix.90, 4.vi.91; 8♀, 15.v.91, 6.viii.90, 7.vii.90, 11.ix.90, 15.vii.90, 9.ix.90; Sialkot 1♂, 1♀,

12.v.91; Bahawalpur  $2^{\circ}$ , 11.ix.91, 13.ix.91, 13, ix.91; Lahore  $1^{\circ}$ , 6.vi.91; Layyah  $1^{\circ}$ , 27.iv.91; Okara  $2^{\circ}$ , 20.v.91,  $1^{\circ}$ , 20.v.91.

0.v1.91, Layyan 1 ‡, 27.1v.91, Okara 20, 20.v.91, 1 ‡

Agrius convolvuli (Linnaeus)

Forewing length:  $\delta x = 43.63 \text{ S} = 4.28 \text{ (10 specimens)}$ 

9x = 48.65 S = 4.10 (10 specimens)

Material examined: Faisalabad  $3\mathring{o}$ , 6.v.91, 10.v.91,  $6\mathring{\circ}$ , 10.v.91; Sialkot  $2\mathring{o}$ , 12.v.91, 11.v.91; Islamabad  $2\mathring{o}$ , 29.iv.91; Murree  $1\mathring{o}$ , 17.vii.91; Lahore  $4\mathring{\circ}$ ,  $2\mathring{o}$ , 13.v.91.

## Tribe Ambulycini

Ambulyx belli (Jordan)

Forewing length: 43

Material examined: Murree 1♂, 23.vii.91.

Clanis deucalion (Walker)

Forewing length: 56

Material examined: Murree 1♀, 23.vii.91.

Leucophlebia lineata Westwood

Forewing length:  $\delta x = 36.25 \text{ S} = 0.50 \text{ (5 specimens)}$ 

Material examined: Kasur 5♀, 7.viii.91.

Marumba sperchius albicans (Butler)

Forewing length: 13, 54 (1 specimen), 19, 63 (1 specimen)

Material examined: Murree 1♂, 1♀, 17.vii.91.

# subfamily Macroglossinae

# Tribe Macroglossiini

Dephnis nerii (Linnaeus)

Forewing length:  $\delta x = 45.0 \text{ S} = 1.00 \text{ (7 specimens)}$ 

9x = 47.00 S = 2.98 (4 specimens)

Material examined: Faisalabad 43, 15.ix.91, 21.ix.91, 12.xi.90, 10.iii.90, 39, 6.ix.90, 20.ix.90, 15.ix.90; Sialkot 33, 12.v.91, 19, 12.v.91.

Nephele didyma f. didyma (Fabricius)

Forewing length:  $\delta x = 31.25 \text{ S} = 0.35 \text{ (3 specimens)}$ 

 $\Re x = 32.38 \text{ S} = 0.18 \text{ (2 specimens)}$ 

Material examined: Faisalabad  $3\delta$ , 1.ix.91, 13.ix.91, 7.x.91, 2, 13.xi.91, 18.xi.91.

*Nephale didyma f. hespera* (Fabricius)

Forewing length:  $\delta x = 33.25 \text{ S} = 0.87 \text{ (5 specimens)}$ 

9x = 33.75 S = 1.01 (4 specimens)

Material examined: Faisalabad 5♂, 13.vi.90, 16.vii.90, 20.ix.90, 21.ii.90, 4♀, 16.vii.90, 17.vi.90, 27.ix.90, 13.ix.90.

Macroglossum sp. Scopoli

Forewing length: 27

Material examined: Murree 1♂, 20.viii.91.

## Tribe Choerocampini

Hyales lineata livornica (Esper)

Forewing length:  $\delta x = 32.58 \text{ S} = 2.58 \text{ (8 specimens)}$ 

9x = 34.86 S = 4.55 (7 specimens)

Material examined: Faisalabad 53, 17.ix.90, 20.vi.90, 5.viii.90, 59, 22.viii.91, 1.v.89; Sialkot 33, 12.v.91, 29, 12.v.91.

Pergesa elpenor rivularis (Boisduval)

As the description of this species by Bell and Scott (1937) is quite inadequate, it is redescribed in detail below:

Thorax snuff brown, with four longitudinal rosy stripes on dorsum. Forewing underside rosy, with a subapical snuff-green patch, a black streak in the cell and another along the inner margin, the latter not reaching the anal angle. Hindwing with basal half of upperside black, this colour narrowly extending out along the costa which is of plain white colour; underside red with snuff-green costal band and a transverse band of the same colour from costal margin to near inner margin. Abdomen with a medio-dorsal rosy-red line, a lateral black patch on first segment, lateral sides with white dots.

Forewing length: 35.

Material examined: Murree 13, 17.vii.91.

Hippotion celerio (Linnaeus)

Forewing length:  $\delta x = 33.08 \text{ S} = 0.97 \text{ (9 specimens)}$ 

 $\Re x = 34.80 \text{ S} = 2.18 \text{ (5 specimens)}$ 

Material examined: Faisalabad 8♂, 11.xi.90, 27.ix.90, 13.ix.90, 3♀,

Theretra alecto (Linnaeus)

Forewing length:  $\Im x = 37.88 \text{ S} = 2.02 \text{ (4 specimens)}$ 

9x = 42.33 S = 1.26 (3 specimens)

Material examined: Lala Musa 23, 27.ix.90; Faisalabad 23, 8.viii.90,

22.vii.90, Faisalabad 2♀, 20.vii.91; Jhelum 1♀, 27.ix.90.

T. oldenlandiae (Fabricius)

Forewing length:  $\delta x = 31$  (1 specimen)

 $\mathcal{L}x = 29.8 \text{ S} = 1.3 \text{ (5 specimens)}$ 

Material examined: Islamabad 18, 7.x.90; Faisalabad 49, 13.ix.90,

16.ix.90, 9.viii.90, 15.viii.90; Islamabad 1♀, 7.x.90.

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# Idaea seriata Schrank, 1802 (Lep.: Geometridae): A second or possible third brood in 1995

I was intrigued to find a female *I. seriata* having been attracted to the light in the drying room of the flat in Cippenham, Slough on the morning of 2 October. This specimen laid a not inconsiderable quantity of ova before being released, the larvae overwintering and pupating in March 1996.

Riley & Townsend (1992, *Ent. Rec.* **104**: 46-47) detail the discovery of an example of this geometrid at the Rothamsted light trap network, even later on 17 October 1990. In the same year, Baker (1996, *pers. comm.*) details a specimen on 15 October in Caversham, Reading.

These data are at variance with the time given for the appearance of the species' second brood as mid-August to the third week of September (Plant, 1993, Larger moths of the London area), mid-August until mid-September (Skinner, 1984, Moths of the British Isles), and August (Riley, 1991, A natural history of the butterflies and moths of Shropshire). Skou (1986, The

Geometrid moths of North Europe) gives the later first brood, until early August, and talks about a partial, but "not rare" second generation from September until early October. The lack of agreement over appearance of the second brood is accounted for by both Baker (1994, *The butterflies and moths of Berkshire*) and Skou (op. cit.) by its infrequence at light, despite being common around buildings.

Table 1. Meteorlogical data for 1990 and 1995.

	Temperatures °C	Rainfall % deviation
<b>1990</b> (deviations from 1951-1980 norms)	Jul. +1.0 Aug. +2.5 Sept0.4 Oct. +1.5	Jul. 51% Aug. 56% Sept. 65% Oct. 128%
1995 (deviations from 1961-1990 norms)	Jul. +2.4 Aug. +3.8 Sept0.1 Oct. +1.1	Jul. 66% Aug. 18% Sept. 169% Oct. 100%

Interestingly, meteorological data for the summer months of 1990 and 1995 are similar in terms of rainfall and temperature (Table 1). This might suggest a possible third brood, rather than a late second brood, both July and August enjoying above average temperatures and having a deficit of rainfall. That higher than average temperatures may be of benefit to the species is suggested by late May 1992 records for *I. seriata* detailed by West (1993, *Ent. Rec.* 105: 36-37), when Skinner gives late June as the appearance for the moth's first generation. May of that year was exceptionally warm, the summer months being normal.—Gareth King, 25d Windsor Road, London E7 0QX.

## Little-known entomological literature 5

There are a number of entomological magazines, such as the *Record*, the *Gazette*, the *Entomologist's Monthly Magazine* and the *Entomologist* which will be well-known to readers and the past issues of which are frequently consulted and quoted in the literature. Apart from that youngster, the *Gazette* (in its 46th year) the others have been in existence for over a century and are therefore both constantly in mind and back numbers appear regularly on the market. There are, however, other magazines which were short-lived but have an important entomological content which, perhaps due to their rarity and therefore difficulty in consulting, are seldom mentioned today. Several of these used the general term *Naturalist(s)* in their title which again tends to put off the dedicated entomologist from consulting them. I list two of these

in this article, for they have important entomological articles by many of the leading entomologists of the late Victorian period. They were published at a time when the main entomological activity was in the industrial areas of the midlands and north. Both journals were issued with the plates either plain or hand-coloured.

The first is *The Young Naturalist: an illustrated magazine on natural history* which commenced in November 1879, continued to 1890 (vol. 11) when it changed its title to *The British Naturalist* which continued until 1894.

Volumes 1-5 were edited by John E. Robson and S.L. Mosley. Volumes 6-11 by John E. Robson with the assistance of an editorial panel. After the name change to *The British Naturalist: an illustrated magazine of natural history* Robson continued to conduct the journal with an enlarged editorial panel. After three volumes had been completed he announced he was unable to continue and that publication had ceased. Nevertheless a fourth volume was issued by a different publisher and edited by Joseph Smith and Linnaeus Greening, retaining most of the editorial panel. This volume ended in December 1894 without explanation leaving several "to be continued" articles in limbo.

The second journal is *The Naturalists' Journal* (N.J.) which commenced publication in July 1892, ran for 11 volumes when it changed its name to *Nature Study* which only survived for the one volume, publication ceasing in 1903. The journal had several changes of editors, a bewildering assortment of typefaces and subtitles and due to its issuing independently-paged "supplements" and monthly numbers of one sort or another, a difficult magazine to collate and make sure all parts are present in a bound volume! Not all volumes have plates, but those that do were issued either plain or coloured. Nevertheless it is liberally sprinkled with photographic and line illustrations.

It is worth giving the various titles and changing editorship of the volumes:

Vol. 1. The *N.J. A monthly medium for collectors and students of natural history*. Edited by H.K. Swann.

Vol. 2. ditto. Edited by A. Ford and Albert H. Waters.

Vol. 3. ditto. Edited by A. Ford and S.L. Mosley.

Vol. 4. The N.J. A magazine of natural science. Edited by A. Ford and S.L. Mosley.

Vol. 5. The N.J. and Naturalists' Guide. The monthly organ of the Economic & Educational Museum, Huddersfield. Edited by S.L. Mosley.

Vol. 6. The N.J. and Guide. The monthly organ of the British Field Club and Economic & Educational Museum. Edited by S.L. Mosley.

Vol. 7. ditto.

Vol. 8. ditto.

Vol. 9. *The N.J. incorporated with which is the Naturalists' Guide*. Edited by Charles Mosley.

Vol. 10. ditto.

Vol. 11. *The N.J. & guide, to be continued as "Nature Study"*. Edited by Charles Mosley. As such it only survived for one volume.

Note the involvement of S.L. Mosley in both journals. Is it perhaps significant that he became editor of the second journal in the same year that the first failed? Although he did not obviously become involved in the founding of the N.J. I sense that disagreements may well have arisen as to the direction the first journal should be taking and/or editorial policies. The floundering of the British Naturalist may well have been due to the success of the newly-founded Entomologist's Record as well as the Naturalist's Journal siphoning off contributions. There was of course competition from a number of other journals at the time and the period 1880-1900 saw a plethora of short-lived natural history magazines. Mosley is perhaps best known as the author of some of the finest, but rarest, of all entomological books, those illustrating European butterflies and varieties of British lepidoptera. In all nearly 300 hand-coloured plates, all of which he is said to have done himself, as well as books on birds. Now some of these plates appeared first in these two journals and while many may be signed S.L. Mosley, in at least one case Miss Mosley is given as the colourist. It is well worth mentioning some of the more important entomological articles from these two journals.

Commencing with *The Young Naturalist*, all volumes contain the usual notes and observations, book notices, local lists, localities to visit, notices of Societies, Exchange notices, etc. and in the earlier volumes a discussion of "reputed" British lepidoptera. As might be expected from the title, instructions for beginners on setting, rearing, forming a collection etc. form a prominent feature. Volume 1 commences an extensive series on the Orders of insects and "An account of British Butterflies" by J.E. Robson illustrated by Mosley. By Volume 4 the butterflies have been replaced with "Notes on Coleoptera, for beginners", again finely illustrated by Mosley. In this volume also are concise accounts of various Diptera, Hymenoptera, Lepidoptera and Trichoptera with plates particularly of Pyralides, while Volume 5 continues with the Coleoptera, and Pyralides have been replaced with Tinae and a plate of the *Taeniocampa* genus.

Now in Volume 5 it is stated (on page 281) that "The regular monthly plate will be discontinued and in lieu . . . at frequent intervals a coloured plate of superior quality . . .". Now in the three copies I have examined I have found no trace of further coloured plates except one or two of spiders after the change of name to *British Naturalist*. It is perhaps significant that Mosley was no longer co-editor.

A very important article by J.C. Dale commenced in Volume 8. This was *The history of our British butterflies*, inserted as a supplement and which ran to 232 pages and was issued later as a separate book of which I have seen two variant title pages. This was followed by Dale's *History of our British hawkmoths*. Also issued as a supplement, while I have seen separate copies, I have not (yet) come across a separate title-page. Another important supplement was *British spiders* by Rev. O.P. Cambridge and this was

illustrated with both black and white and colour plates. An important work by J.W. Tutt, *The Pterophorina of Britain* ran through all four volumes of *The British Naturalist*, and although not as a supplement was issued later as a book.

Volumes 2 and 3 of *The British Naturalist* contain a monthly, albeit brief, biography of "Naturalists of the day" which are illustrated from photographs, so if anyone would like to see portraits and details of our well-known and famous Victorian entomologists here is the place to look. Volume 2 also contains what I believe to be the earliest (1891) substantial account of collecting on Wicken and Chippenham Fens while Volume 4 contains an account of "Some curious aquatic insects", Cambridge's "List of British spiders", several plates but no more portraits.

Turning now to *The Naturalists' Journal*, this contains rather less entomology than the previous, but, in addition to the usual notes and observations, book notices, local lists, localities to visit, notices of Societies, lists of captures and localities, Exchange notices, reviews etc., perhaps its strongest point is the very many illustrated descriptions of varieties of lepidoptera, particularly of *Abraxas grossulariata*, *A. ulmata* and of *Arctia caja*. There are some important early monographs, such as that on gall insects and Malcolm Burr's *British Orthoptera* and these form a prominent feature of the journal. Articles on Coleoptera and other orders are not neglected and, as the sub-title of later volumes infers, there is much economic entomology (pest as well as beneficial insects) and Field activities. Some later volumes also contain photographs of Victorian entomologists and an article on the natural history of the Isle of Man.— BRIAN O.C. GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

#### **BOOK REVIEWS**

Hertfordshire and Middlesex butterfly report for 1995 by John Murray. Published by the Herts & Middlesex Branch of Butterfly Conservation. 1996. 44pp. spiral bound. £2 from Butterfly Conservation, Herts & Middx Branch, Field End, Marshalls Heath, Hertfordshire AL4 8HS.

Items such as this, which are essentially annual newsletters, do not normally warrant a review in this journal, which would prefer to wait to see the end product. However, as annual reports go this one is not bad. After only one year some 52% of the tetrads of the two vice-counties have been covered and consequently 6,546 records of in excess of 50,000 butterflies have been incorporated. Butterflies in the bulk of this area have, of course, already been mapped in recent years in a hardbound volume published by the London Natural History Society. What we see now is the start of the new mapping scheme which is a part of the "Butterflies for the New Millennium" initiative

run jointly by Butterfly Conservation and the Institute of Terrestrial Ecology and designed to map every butterfly in every tetrad of Britain between 1995 and 1999. I wish them luck! There is a remarkable similarity in this report between the map showing tetrads with the greatest number of species of butterfly and that depicting the residences of the field recorders; this is perhaps a phenomenon known to most of us!

Worryingly, one of the worst recorded areas forms a neat circle all around my own house; perhaps it is time I did some field work and if this publication inspires me to do so then it will have served its purpose and is, *ergo*, a good publication. If you live in north London or Hertfordshire and have an interest in butterfly mapping then buy it.

Colin W. Plant

Nordeuropas Snudebiller 1. De kortsnudede arter (Coleoptera: Curculionidae) -med saerligt henblik pa den danske fauna by Eivind Palm. 356pp. 8 colour plates. Numerous distribution maps (Fenno-Scandia and extreme northern Europe). 491 text figures. Several monochrome plates in text. Hardbound. ISBN 87-88757-38-2 (ISSN for the series 0109-7164). 1996. From Apollo Books, Kirkeby sand 19, DK-5771, Stenstrup, Denmark at 400 Danish Kroner (approximately £45) plus postage (revue copy weighs 950 grams but allow for packaging).

This is the first volume in a series of either three or four (?) covering the weevil fauna of North Europe. The geographical coverage includes Denmark, Norway, Sweden, Finland, the area of Russia to the east of Finland (Karelia) and that around St. Petersburgh, Estonia, Latvia, Lithuania, northern Poland, the north German lowland to the Harzen mountains, Holland and, happily, the British Isles. A total of 163 species of Curculionidae, comprising the subfamilies Brachycerinae and Otiorhyncerinae, which occur in this region together with a further 14 species "only found accidentally" are included and illustrated by colour photographs.

Curculionid weevils are not, in the reviewer's opinion, the easiest of beetles to get to grips with, though doubtless some readers may wish to disagree. Given that the text of this new work is written entirely in Danish one wonders what may be the value of this tome to the British entomologist. The answer lies in the summary at the end of each species account, the colour plates and the many text figures, all of which are in English! Though brief, the summaries provide useful information and point to references in the extensive bibliography of 1012 entries. The text figures illustrate in accurately-crafted detail some of the more critical points of separation of species pairs and far exceed anything I have so far encountered in the scattered British literature. The colour plates, enlarged over life size for clarity but set opposite silhouettes at life size, are long overdue and will at

least let amateurs such as myself know if the beetle I think I have using an English key looks anything like the real thing!

With no fewer than 65 curculionid weevils amongst the 650 beetles added to the "British List" since Joy's *Handbook* in the 1930s (*vide* Hodge & Jones, 1995), surely no British coleopterist can afford to be insular in his or her approach to the subject any longer. Careful examination of the fauna of adjoining parts of Europe is likely to facilitate detection of yet more species in Britain, and this book will have a useful role in this process.

The weaknesses of this volume, and presumably those that will follow, are first that it is written in Danish, a language few British (and other European?) entomologists will be able to read, and second that the distribution maps show the entire of the geographical area covered with the single exception of Britain. Quite why this is so is beyond me unless it is for reason of space on the page. Certainly it is not the case that all the species listed are not present in Britain, so making a map including that area unnecessary. Further, reading through the English summaries of species which I know occur in Britain, this country is not always mentioned (for example, Polydrusus cervinus (L.) is merely given as "Widespread and common in many parts of Northern Europe."). I am led to the conclusion that this is principally a Danish book, for Danish readers about Danish beetles, interpreted in terms of their geographical significance in northern Europe by reference to neighbouring countries. It is a pity that the keys at least were not also reproduced in English; dual language works do exist - most notably the series Noctuidae Europaeae which has both French and English side by side.

This book has a place in British Isles entomology, but at the price of 400 Kroner coupled with the other weaknesses listed above, it will likely appeal only to specialists and academic institutions.

#### Reference

Hodge, P.J. & Jones, R.A., 1995. New British Beetles. Species not in Joy's practical handbook. British Entomological & Natural History Society.

Colin W. Plant

The butterflies of Wiltshire by Michael Fuller. 196pp. Distribution maps. Colour plates. Hardbound. ISBN 1-874357-06-4. Published by Pisces Publications (the imprint of the Nature Conservation Bureau Ltd) 1995. £22.50 (plus £3.00 postage if ordered direct from The Nature Conservation Bureau Ltd, 36 Kingfisher Court, Hambridge Road, Newbury, Berkshire RG14 5SJ).

These days it is almost a crime for a county not to have its own "Butterflies of . . ." volume and such a work for Wiltshire, a county with a rich and important butterfly fauna, is long overdue. Apart from Baron de Worms *Macrolepidoptera of Wiltshire* (de Worms, 1962), which included a section

on butterflies, this is effectively the first publication summarising all the butterfly data for the county. However, with this great proliferation of county butterfly faunas (to which the reviewer is also guilty of contributing), comes an increasing difficulty in the ability to find new and constructive things to say about them. This one fills a definite need, it compares well with other county butterfly books in terms of quality and presentation, it is reasonably priced as books go these days and it is worth buying!

Each species is given the customary individual treatment, commencing with an excellent colour photograph of a living, wild specimen (several different photographers). The text for each species begins with an explanation of the scientific name, a very short statement on recognition and some brief notes on egg laying sites, larval foodplants and adult nectar sources. Sadly, I am left not at all clear whether the larval foodplants named are those recorded in Wiltshire or whether they are those reported in other works. Further sections for most species cover flight period, measures of abundance from 1980 to 1994, status before 1982, status since 1982 (what happened to 1982 itself?), and future prospects. Flight periods are also presented pictorially in the form of histograms and these I find quite helpful. Finally, there is a distribution map based, as has become the norm, on tetrads (2km x 2km squares). The occasional colour photograph of typical habitat (in Wiltshire) is something not included by most county butterfly faunas and serves well to emphasise the importance of habitat preservation in the conservation of individual butterfly species.

Each resident species that has occurred in Wiltshire since 1982 and the two commoner immigrants from overseas, the Red Admiral Vanessa atalanta (L.) and the Painted Lady Cynthia cardui (L.) has been allocated to one of the six status categories of Nationally Rare, Rare [in Wiltshire], Scarce, Widespread but only locally common, Widespread and common but thinly distributed and, finally, Common. This categorisation strikes me as a good idea (indeed I did the same myself for London's larger moths (Plant, 1993)), as long as the inclusion in a particular category is justified. However, I am a little worried that inclusion in the category "Common" does not necessarily imply that the butterfly is common in every part of the county. The author includes here species that are "... common only where the food required by the caterpillars and adults occurs". On this basis the Silverspotted Skipper Hesperia comma (L.) – stated to occur at "one large colony" should surely be included yet it is classed as "Rare" by Mr Fuller. Perhaps there is confusion here between butterflies which are widespread - i.e. geographically well represented regardless of numerical abundance - and those which are common - i.e. numerically abundant regardless of geographical spread. What, I wonder is the difference between a butterfly in the "Widespread, common but thinly distributed" category and one in the "Common" category which only occurs where its foodplant is present? I also question the inclusion of the two common immigrant species in the

categorisation; why should their presence contribute to site evaluation if the presence of, say, the Clouded Yellow *Colias crocceus* (Geoff.) does not? Perhaps I have missed the point, but surely the conservation purpose of the categorisations is weakened if ambiguity is permitted to creep in?

A useful inclusion is a chapter towards the end of the book depicting graphs of "Indices of abundance" obtained from the butterfly monitoring scheme. Some very interesting trends are apparent but, to discover exactly what these are, I suggest that you buy the book. It is worth the asking price.

#### References

Plant. C.W., 1993. *Larger Moths of the London Area*. London Natural History Society. Worms, C.G.M. de, 1962. *The Macrolepidoptera of Wiltshire*. Wiltshire Archeological & Natural History Society.

Colin W. Plant

# A visit to Butterfly Gorge, Northern Territory, Australia – October 1993

To come right out with it, the visit was a failure – we never got to the Gorge. But we did see lots of butterflies and in a beautiful, natural setting.

To start at the beginning, we were planning our visit to see my brother and family in Australia. They live in south Australia and my brother was taking care of arrangements for our five-week visit with them. For our part, I was looking for attractions to take us north and west and to round off our tour with a call on friends in Perth, Western Australia.

One of the guide books that I got from the library (and to my shame, I have forgotten the author and thrown away the reference) identified Butterfly Gorge as an attraction in the area of the Douglas Hot Springs National Park south of Darwin. It was described as having thousands of butterflies festooned on the rock faces of the gorge. I contacted the Northern Territory Office in London – they could give me no details of it, but they did send me a large map and there, sure enough, some 150 miles south of Darwin I read the name. My brother, making enquiries at his local tourist office in Adelaide could find no-one who had heard of the place. We decided to wait until we were in Australia, when I could more easily, and cheaply, telephone round appropriate sources.

## The National Parks of the Northern Territory

Arrived in Australia – and, more specifically, in Burnside, South Australia – a personal visit to the local Travel Agents again produced an office-wide no knowledge of this Butterfly Gorge. One of the staff, however, kindly said she would make enquiries of a friend up north. We went back to the office the following Monday and she brilliantly produced a leaflet listing the National Parks of the Northern Territory. Butterfly Gorge was there. The

message was, however, that "no-one goes there". This statement was explored and found to mean that there were no organised tours to the Gorge. To get to the Gorge, one would have to arrange one's own transport and accommodation.

Illustrated with a sketch of the Australian danaid eggfly butterfly, the National Parks leaflet read: "Butterfly Gorge, with its sheer rock faces, surrounded by forest and spinifex grass, offers walks, swimming and beautiful views. The Gorge is named for the large numbers of butterflies which shelter in its cool, shady rock crevices. Approximately 130km from Katherine on the old Stuart Highway, the Park is easily reached from Katherine or Darwin. The final 17km into the Park is recommended for four-wheel drive vehicles only, and is closed to all vehicles throughout the wet season."

Discussing accommodation options – it looked on the map as though the roadhouse at Hayes Creek on the Stuart Highway would be the nearest. However, the Travel Agent said her contact advised that there was a good place at Cornpatch, adjacent to the entrance to the Park. She phoned to enquire and was told they could offer us a pop-up caravan or a house. An intriguing choice! The rate for the house (sole occupancy) was only A\$15 per person per night. We couldn't make a booking at that time, however, as we were not certain of our dates.

## South Australia – several species noted

We had a full programme of exciting events ahead of us (we had already been up to the Flinders Ranges and were shortly going "down" to Kangaroo Island and, later, via the Great Ocean Road, to Melbourne, over to Tasmania and back via Balarrat and the Grampians.

Naturally, in this time we were taking opportunities to survey the local butterfly population – there were some occasional quite hot days although it was, of course, still early spring (there was snow the day we arrived in Tasmania). Around Adelaide – in Waterfall Gully and the tracks up Mount Lofty we noted fair numbers of Monarchs (*Danaus plexippus* Linn.), the Common Grass Blue (*Zizina labradus* God.) and the ubiquitous Cabbage white (*Pieris rapae* Linn.) along with the occasional Australian Admiral (*Vanessa itea* Fab.) and some Lesser Wanderer (*Danaus chrysippus* Stol.). In the Flinders Ranges, particular sightings had been the Wood White (*Delias aganippe* Don.) and the Meadow Argus (*Precis villida* God.) along with the species already recorded from the Adelaide area.

It is interesting to note that the Australian "Cabbage White", in reality the European "Small White", did not arrive in Australia until 1939 when it was first recorded in Victoria.

## Enquiries at the South Australian Museum

Before going north, I wanted to find out what species of butterfly I might expect to see in the Butterfly Gorge. My brother had a copy of McCubbin's

Australian Butterflies and I spent some time abstracting details. We also went to the South Australian Museum in Adelaide to look at their butterfly collection and it was there that we saw a flier announcing publication of a field book on Australian butterflies by a Mr Robert Fisher\*, a local entomologist and author of a book, Butterflies of South Australia which, naturally, my brother and I had already both got. I left a note for Mr Fisher at the Museum asking if I could meet him. He was very helpful – his field book was not yet in print but he kindly provided me with a comprehensive list of what I might be likely to see up north. I spent a very enjoyable morning with him.

## Transport and accommodation for Butterfly Gorge

Some further information was obtained from some fellow "tourists" staying near us at the Rocky River Homestead on Kangaroo Island. An Australian couple, they were making a six-month tour of their own country. They had been to Butterfly Gorge and confirmed that there really were lots of butterflies, mostly the blacks, they said. Also, although their own vehicle was a four-wheel drive, they considered that, except for one doubtful spot, one could certainly get to the Gorge with a two-wheel drive.

I now felt pretty well ready for the trip to the Gorge. We booked the house at Cornpatch along with other onward accommodation up north and we flew up to Darwin. There I sought to arrange the car rental – there were no more four-wheel drives available! So we had to take a two-wheel drive – and then the rental people wanted to know where we were planning to go. "Butterfly Gorge!" "You can't do that with a two-wheel drive!" It was agreed, however, that we should ask the man "on the ground" at Cornpatch. "No problem", he said, "it's only when the Wet starts that one needs a four-wheel drive."

Taking an evening walk in Darwin, I came across a good example of the Northern Jezebel *Delias argenthona* Fab. dead in the roadside (presumably struck by a car) – but that is all I recorded from our short stay there. Leaving Darwin, we drove down the Stuart Highway, taking in the Lichfield National Park on the way (breathtaking waterfalls, but very hot and lots of flies; not many butterflies though) and on to the turn off to the Douglas Hot Springs National Park and Cornpatch.

Cornpatch appeared to us to consist of one "bush pub" and one house. There was also a caravan/camping site associated with the pub. Certainly, there were other people living in the area and we were pleased to meet a number of interesting and friendly locals the next evening (Friday) when the pub filled up. Besides the caravan park, there were a number of cultivated fields round about (looking neglected; but actually just waiting for the Wet). The "house" – where we were to be staying – had been built for the warden for the National Park but he had not yet come to live there. Jim Hegarty at the pub had kindly seen to it that the air conditioning had been turned full-on in the house for it to be nice and cool for our arrival. Electricity is supplied

from a generator at the pub and is turned off around 10.30pm on weekdays. after that it's hand-fans and candles.

## The drive to the Gorge

The next morning we were up and off in good time for our expedition to Butterfly Gorge. We drove back up the dirt road and turned off the track into Douglas Hot Springs Park. After about 10 kilometres we took the fork leading to Butterfly Gorge. Things were going well – it was a rough dirt road but not difficult. We passed some fields with Bramah cattle and, way off to the right, a substantial farm. From there on we got into more scrub country and the track was frequently crossed by water courses; no real problems though.

Then, after about another 10 kilometres and we were relaxing with the confidence that there was nothing in this route that we couldn't manage with two-wheel drive, we came to a deeper water course littered with broken branches and other forest debris. Some wheel tracks suggested a path past the hazard to the side. I took this and suddenly we were stranded in soft sand. In stifling heat, with a lot of digging and placing of "matting", it took an hour to get through and back on the track. There were still seven kilometres to go to the Gorge, but we were now more alert and two or three similar further hazards were tackled more circumspectly and successfully. But there was now the nagging doubt each time that we were already a long way from any help if we really should get stuck.

Finally, we came to a really steep and rough slope down which I was not inclined to travel. The track was wider at this point and there was even a small patch of shade in which to park the car. In front of us was a grove of tall trees and from here we went forward on foot and found that we were very close to the river; the track now, however, was definitely for four-wheel drives only. This seemed to be it but there was no sign to say if we had reached the Gorge or which way to proceed if there was further to go. We roved along the river bank and I climbed the steepening ground, but still no sight of a Gorge nor of any walls festooned with butterflies.

With mounting concern about the possibilities of some further mishap on our journey back, I eventually gave up this search and returned to my wife whom I had left sitting on a dry log by the river bank in the deep shade of the tall trees. Butterflies there were, but it was difficult to follow them over the very rough terrain of boulders and fallen logs and thick growth of trees. I noted, however, at least two species of "blacks" (one of them, no doubt being the Common Australian Crow *Euploea core* Mac.), both in some numbers. The Glasswing *Acraea andromacha* Fab. was fairly well represented and there was also a good number of small yellow and a small white butterfly. However, I was now really too occupied with the thought of our return drive to be able to take any detailed interest in them at this stage.

In the event, the return journey passed without incident – being "forewarned", I steered safely past the soft sand hazard. All the same, we felt some considerable relief when we finally rejoined the main road. In the five hours since turning off for Butterfly Gorge we had seen no other cars nor any sight of other human beings.

### Another time - contact the Park Warden!

Eating that evening at the pub, we told "Cookie" (we never learnt his proper name) of our getting stuck in the sand. "It happens", he commented. He also told us that the Park Warden had been by that day – he hadn't been expected; he usually came on a Monday. "It was a pity you hadn't met him". I fully concurred with this view – way back, in England, it had certainly been my intention to seek advance contact with the Park Warden, but that hadn't been possible then, of course, because I hadn't been able to find anyone to give me details of the Park.



The Douglas River at Cornpatch downstream from Butterfly Gorge.

Anyway, "Cookie" went on to say that we really didn't need to go up to Butterfly Gorge to see lots of butterflies. "Just across the caravan ground, amid the trees along the river bank, there are plenty to be seen. It's a lovely river for bathing, too – cool under the trees and no snakes and no crocs!".

We explored the river bank area the following morning. Cookie was quite right. There were a lot of butterflies (though of a few species only) and, no, we didn't see any snakes or crocodiles and, yes, it was cool under the trees. But it wasn't cool running about after the butterflies. I had my net with me and I was trying to catch them for identification. The terrain was very rough. Trying to negotiate the fallen logs and rocks and still keep one's eyes on a fleeting butterfly – that was difficult enough but then, with the sweat

dripping into one's eyes and the flies buzzing in excitement around one, focussing on a butterfly in flight really was almost beyond human endeavour!

For the record, however, I noted what I took to be the following: Common Australian Crow *Euploea core* Mac; Darwin Brown Crow *E. darchia* Mac; Common Grass Yellow *Eurema hecabe* But. and Narrow Winged Pearl White *Elodina padusa* Hew. Nothing special really, but, at least, there certainly were a lot of them!

In the preparation of this report, I have tried to find again in our library the guide book that gave me wind of the Butterfly Gorge. The actual book is no longer there. However, the 1994 revised edition of Carl Robinson's *Illustrated Guide to Australia* does refer to Butterfly Gorge – but only with a one-line mention that it is a "good picnic spot"!

I am indeed sorry that I cannot now give proper credit to the book in which I read the magic words "thousands of butterflies" – the words that set us off on this most exciting trip.

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Fisher, R.H., 1978. *Butterflies of South Australia*. Government Printers, South Australia. –, 1995. *A Field Guide to Australian Butterflies*. Surrey Beattie & Sons Pty Ltd, NSW, Australia.

Robinson, C., 1994. Illustrated Guide to Australia. The Guide Book Co. Ltd.

\* Since our meeting in Australia, I have been very pleased to keep in touch with Bob Fisher, an Honorary Associate of the South Australian Museum, Entomology Section. He was, last year, awarded the medal of the Order of Australia. The citation read "For services to entomology and, in particular, his work towards the protection of endangered species". A pharmacist by profession, Bob Fisher's lifetime interest has been in entomology and, having donated his own collection to the South Australian Museum, he has, for the past nine years, been devoting much of his free time (he is now retired) to sorting and reclassifying the Museum's collection.— G.G. Baldwin, 22 Edgerton Grove Road, Huddersfield HD1 5QX.

# Microlepidoptera of Middlesex

Following on from the success of the recent publication *Larger moths of the London Area* (1993), the London Natural History Society is now working towards publication of a checklist of the microlepidoptera of Middlesex. It is expected that the exercise may take another four years to complete.

The term Middlesex involves the entire vice-county 21 and thus includes all of the London boroughs north of the River Thames with the exception of

the five lying to the east of the River Lea (Newham, Redbridge, Waltham Forest, Barking & Dagenham and Havering), which are in South Essex (VC18). Middlesex also incorporates some areas which lie in the current administrative county of Hertfordshire, notably the Potters Bar area. No part of Middlesex extends south of the River Thames.

Records are sought from appropriate persons for all those families generally regarded as "micros" - thus including the Psychidae which were formerly referred to the "macros", as well as those which are sometimes referred to as the mesolepidoptera - the Tortricidae, Alucitidae, Pyralidae and Pterophoridae. Records should include the name, the Bradley & Fletcher code number (to avoid nomenclature confusion), the date where possible and the locality. Records will be assumed to relate to imagines unless "mine", "larva" or some other qualifying statement is provided. Localities will ideally include a place name and a four figure grid reference. Place names should be those appearing on the Ordnance Survey maps; precise localities, such as the names of nature areas or ecology parks in London are desirable but if these do not appear on the O.S. maps the nearest locality should always be given. Where a grid reference cannot be obtained, an address obtained from one of the various published books of street maps of London should be used. Site lists will ideally be presented in Log Book order to facilitate data entry. Overnight trap dates should give the first date, according to the example 23 August for 23-24 August, and not as 24 August. Approximate counts and sexes are desirable for immigrants. Confidentiality for selected records may be requested. Records are required for all time, not iust the present. I regret that because of other commitments, I am unable to accept specimens for identification.

All communications will be acknowledged and records from outside Middlesex contained in mixed lists will always be forwarded to the appropriate recorders unless directions are given to the contrary. Because of the risk posed by computer viruses I am not prepared to accept records on disk; unsolicited disks will be returned un-examined. Please send records direct to me.— Colin W. Plant, 14 West Road, Bishops Stortford, Hertfordshire CM23 3OP.

# Tettigonia viridissima L. (Orthoptera: Tettigoniidae) in Scotland

A single adult female of this species was discovered in the Orthoptera collection at Glasgow University Zoology department in December 1995, with a handwritten label "In timber yard, Glasgow, Aug. 1973", and it is the first definite record of this species in Scotland, although undoubtedly a casual importation. The specimen is of the yellow legged variety, indicating an eastern European origin (E.C.M. Haes, *pers. comm.*), probably in a consignment of timber.— A. RAMSEY, Dryfemount, Dundas Street, Bo'ness, West Lothian EH51 0DG.

# A NEW LOCALITY RECORD FOR *LOPINGA ACHINE* (SCOPOLI, 1763) IN BULGARIA (LEP.: NYMPHALIDAE: SATYRINAE)

STANISLAV ABADJIEV

Institute of Zoology, Bulgarian Academy of Sciences, 1, Tsar Osvoboditel Blvd, Sofia 1000, Bulgaria.

WHEN STUDYING the butterfly collection of the National Museum of Natural History in Sofia, four specimens of *Lopinga achine* (Scopoli, 1763) drew my attention. All of them were collected by Nikola Nedelkow in the surroundings of Vratsa at the beginning of the century (24 June 1905). Recently, one of them was figured by Abadjiev (1995: Plate V: Figs. 9, 10). These specimens were omitted from Buresch & Tuleschkow (1929). Until now, the butterfly was known only from Ludogorie: Samuil (Markowitsch, 1909) and it was thought that the specimens from Samuil were lost or most likely destroyed (Abadjiev, 1993). This new record extends significantly the range of this species in Bulgaria (Fig. 1).

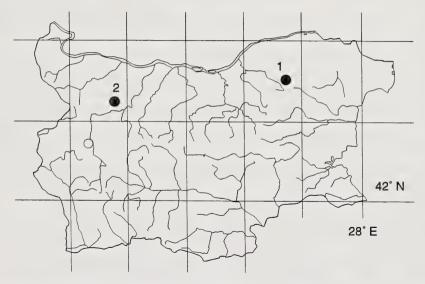


Figure 1. Map of Bulgaria showing the (1) locality of *Lopinga achine* (Scopoli, 1763) near Samuil, and (2) the new locality near Vratsa.

## Acknowledgement

I would like to thank Dr Alexi Popov of the National Museum of Natural History in Sofia for his kind help in studying the museum collection.

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# BUTTERFLIES OBSERVED IN ALBANIA, APRIL, 1994 (LEP.: HESPERIOIDEA & PAPILIONIDEA)

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FROM 11 TO 20 APRIL 1994 we had the opportunity to visit Albania to study the butterfly fauna of this interesting country. During the first day we visited the surroundings of Shkodr Lake. However, because of the cold and wet weather we managed no collecting here. The next day we travelled to the Ionian Sea coast and studied butterflies along the whole of its length but concentrating on the Llogara Pass, Butrinti and the Karst regions around Musina, Jorgucati. The following list comprises all the 30 species observed during the excursion.

## Hesperiidae

Carcharodus alceae (Esper, [1780]). Rarely found in Butrinti (Province Saranda).

C. orientalis Reverdin, 1913. Single specimen observed in Butrinti.

## Papilionidae

*Iphiclides podalirius* (Linnaeus, 1758). Not rare in gardens of Tirana, also observed near Bistrica River: Syri i Kaltër (Province Saranda).

Papilio machaon Linnaeus, 1758. Common in stony terrains of Butrinti, Musina (Province Musina), Jorgucati (Province Gjirokastra).

P. alexanor Esper, [1799]. Rare in Butrinti – three males.

### Pieridae

Leptidea sinapis (Linnaeus, 1758). Not very common in Butrinti, Syri i Kaltër.

Colias croceus (Geoffroy, 1785). Hibernated specimens often seen in Volloderi, Butrinti, Jorgucati.

Gonepteryx rhamni (Linnaeus, 1758). Observed in Syri i Kaltër.

G. cleopatra (Linnaeus, 1767). Hibernated specimens observed in Saranda – one male, one female; Butrinti – two males.

Anthocharis cardamines (Linnaeus, 1758). Not rare in Butrinti, Syri i Kaltër. Euchloe ausonia (Hübner, [1804]). Found in abundance in arid rocky sites of Volloderi, Butrinti, Jorgucati.

Pieris brassicae (Linnaeus, 1758). Specimens found in Tirana, Zogaj (Province Shkodra) (pupa), Dhërmi, Butrinti, Musina.

P. mannii (Mayer, 1851). Worn specimens found in Butrinti, Jorgucati.

P. rapae (Linnaeus, 1758). Abundant in Dhërmi, Volloderi (Province Saranda), Butrinti.

*P. ergane* Geyer, [1828]. Rare in rocky terrains west of Musina – two males. *P. napi* (Linnaeus, 1758). Common in Syri i Kaltër.

Pontia edusa (Fabricius, 1777). Found only in seminemoral formations along Bistrica River: Syri i Kaltër.

## Lycaenidae

Lycaena phlaeas (Linnaeus, 1761). Common in Llogara Pass, Volloderi, Jorgucati.

L. ottomana (Lefebvre, 1830). Rare in Syri i Kaltër, two males.

Callophrys rubi (Linnaeus, 1758). Worn specimens observed in Volloderi.

Celastrina argiolus (Linnaeus, 1758). Not rare in Llogara Pass.

Polyommatus icarus (Rottemburg, 1775). Common in Butrinti.

## Nymphalidae

Pararge aegeria (Linnaeus, 1758). Only two specimens found along the Bistrica River: Syri i Kaltër.

Lasiommata megera (Linnaeus, 1767). Very common in rocky terrains in Llogara Pass (Province Vlora), Volloderi, Butrinti, Musina, Jorgucati.

L. maera (Linnaeus, 1758). In a similar biotopes together with the previous L. megera in Volloderi, Butrinti, Musina, Jorgucati.

Coenonympha pamphilus (Linnaeus, 1758). Not very common in Butrinti, Syri i Kaltër – one female.

Vanessa atalanta (Linnaeus, 1758). Hibernated specimens found in Dhërmi (Province Vlora), Butrinti, Syri i Kaltër, Jorgucati.

V. cardui (Linnaeus, 1758). Common in Llogara Pass, Butrinti, Jorgucati. For about an hour more than 20 specimens were observed flying in direction from the Ionain Sea to the mainland.

*Nymphalis antiopa* (Linnaeus, 1758). Single specimen, probably hibernated, observed flying in Syri i Kaltër.

Issoria lathonia (Linnaeus, 1758). Worn specimens seen in Jorgucati.

## Early migrant Lepidoptera in west Devon

On 26 April 1996 I met with the incongruous sight of a Silver Y *Autographa gamma* L. flying among a drift of spring daffodils. The previous day I had been surprised to see a fresh-looking Red Admiral *Vanessa atalanta* L. sunning itself on the wall of my house. an early migration was confirmed later on the same day when, on the top of King tor, Dartmoor (1280 feet), I happened upon two examples of Painted Lady *V. cardui* L together with a further *V. atalanta*, flying rapidly and basking in the sun at around 6.05pm. The butterflies were still active when I left at 6.30pm.— R.W. Bogue, Kingston House, Tuckermarsh, Bere Alston, Devon PL20 7HB.

#### **Book Reviews**

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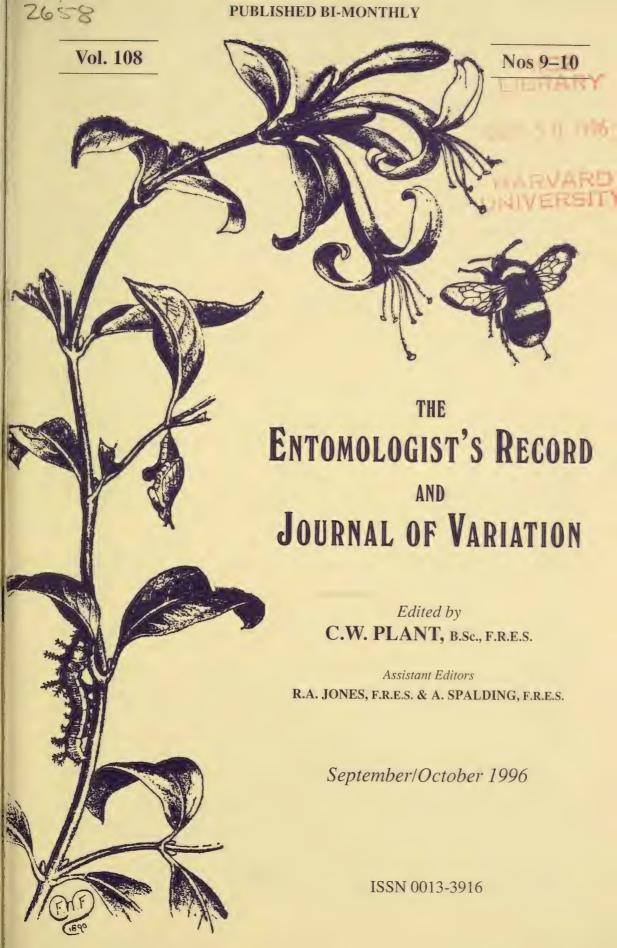
Microlepidoptera review of 1994. David J.L. Agassiz, Robert J. Heckford & John R. Langmaid
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Hazards of butterfly collecting – Syria, August 1970 – secret police. <i>Torben B. Larsen</i> Red Admiral butterfly <i>Vanessa atalanta</i> (L.) (Lep.: Nymphalidae) in mid-February.
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Idaea seriata Schrank, 1802 (Lep.: Geometridae): a second or possible third brood in 1995. Gareth King
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Supplement: The larger moths of Dawlish Warren, Devon pp 29-36. R. McCormick ...... centre fold

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# THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 1992

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THE YEAR 1992 proved to be a memorable year for immigrant butterflies and moths. The arrival in May of a wide variety of species, followed by favourable weather conditions led to the temporary establishment of many species including rarities such as The Ni Moth *Trichoplusia ni* (Hübner) and the Purple Marbled *Eublemma ostrina* (Hübner). As a result it sometimes became difficult to distinguish home-bred examples from primary immigrants.

January and February saw the first examples of the Painted Lady *Cynthia cardui* (Linnaeus) and Red Admiral *Vanessa atalanta* (Linnaeus). Both species continued in above average numbers over the summer and autumn. The Humming-bird Hawkmoth *Macroglossum stellatarum* (Linnaeus) also fared well and was noted in every month from February to October. However, the one immigrant species for which 1992 will always be remembered is the Clouded Yellow *Colias croceus* (Geoffroy). A large and widespread invasion in May and June covered much of the British Isles, with sightings as far north as the Hebrides and the Northern Isles. This, and subsequent breeding, resulted in the largest number ever recorded in Scotland and Northern Ireland, the totals exceeding all previous records put together (Rippey, 1992 and Sutcliffe, 1994).

In mid May parts of the south coast experienced warm winds with "Sahara dust" being reported. This heralded the arrival of the first of the rarities mentioned earlier together with the fourth British example of the Eastern Bordered Straw *Heliothis nubigera* (Herrich-Schäffer) which was recorded in Dorset (VC9). Later in the month, five examples of the Lunar Double-stripe *Minucia lunaris* (Denis & Schiffermüller) were recorded from sites in West Norfolk (VC28), South Essex (VC18), East Sussex (VC14) and Dorset (VC9). These were the first records authenticated by voucher specimens since 1959. On 28 May, Bob Dewick's renowned walk-in trap (in South Essex (VC18)) was graced by the fifth British example of the Dusky Hook-tip *Drepana curvatula* (Borkhausen) together with one of the previously mentioned *M. lunaris*. Fortune again struck three days later in the guise of the tenth record this century of the Purple Cloud *Actinotia polyodon* (Clerck); a gravid female from which a fine series was reared.

The first British record of the Goosefoot Pug *Eupithecia sinuosaria* Eversmann was made when an example was taken in North Somerset (VC6) on 13 June. This was followed by a second in Hertfordshire (VC20) a week later. At about the same time, North Wales celebrated its first example of

Diasema reticularis (Linnaeus); a pyrale with only twelve previously reported records in Britain.

Noteworthy records for the rest of the year were the seventh British example of the Three-humped Prominent *Tritophia tritophus* (Denis & Schiffermüller) from East Suffolk (VC26); the third to fifth mainland records of the Oak Processionary *Thaumetopoea processionea* (Linnaeus) from East Kent (VC15); the sixth Great Dart *Agrotis crassa* (Hübner) (other than from the Channel Islands); the second adult record of the pyrale *Paracorsia repandalis* (Denis & Schiffermüller); and the tenth British example of the Scar Bank Gem *Ctenoplusia limbirena* (Guenée), the last three all from Dorset (VC9). A first-time event for this country was the discovery of larvae of *E. ostrina* in both south-west England and western Ireland. Larvae of *T. ni* were found in Ireland feeding on Hawkweed (*Hieracium* spp.); a new feral foodplant. Larvae of *Tebenna micalis* (Mann) were also found in this country, the occurrence of this species in the British Isles is summarised in Heckford (1993).

In conclusion, it was a remarkable year which might have been even more exceptional had it not been for the gradual deterioration of weather during September over much of the British Isles and for the fact that, except in the extreme south-west of England, the immigrants often anticipated in October failed to appear.

The species listed in the annexes are laid out following Bradley & Fletcher (1979), with ammendments where necessary. Many records were supplied by more than one contributor and it is possible that some duplication of records has occurred, although every effort was made to minimise this. Little attempt has been made to interpret locality data and it is probable that the same site is given by different names, e.g. Durlston, Durlston Country Park and Swanage all probably refer to the same locality. Records placed in square brackets either require confirmation, are known to be releases or, in the case of the Cypress Carpet *Thera cupressata* Geyer, are of individuals that are considered to be resident but are included for interest. The abbreviations listed below are used in Annexe 1.

#### **Abbreviations**

I Primary immigrants

R Resident

R(i) Recent resident/Invader

R(t) Temporary resident

V Vagrant/Wanderer

#### ANNEXE 1: RECORDS OF "SCARCER" SPECIES

#### CHOREUTIDAE

#### Tebenna micalis (Mann) [R(t)]

WEST CORNWALL (1): Kynance Cove, 6.7 - recorded on a leaf of *Pulicaria dysenterica* by day (R.J.B. Hoare per BFS); SOUTH DEVON (3): Chelson Meadow, Plymouth, 8.8 - larvae and 1 adult (Agassiz *et al* 1994 & Heckford 1993); Embankment, Plymouth, 6.8 - larvae and cocoons (Agassiz *et al* 1994 & Heckford 1993); Heybrook Bay, 6.8. - larvae, on *Pulicaria dysenterica* (Agassiz *et al* 1994); Plympton, Plymouth, 1.8 - larvae (Agassiz *et al* 1994 & Heckford 1993); Plympton, Plymouth, 2.8 - larvae (Agassiz *et al* 1994); Plympton, Plymouth, 19.9 - a male to light (Agassiz *et al* 1994 & Heckford 1993); Plympton, Plymouth, 26.9 - larvae and cocoons; 30.9 - larvae and cocoons (Agassiz *et al* 1994); The Warren, nr. Noss Mayo, 5.9 - a few cocoons (Agassiz *et al* 1994); Thurlestone, 31.8 - 2 cocoons (Agassiz *et al* 1994 & Heckford 1993); Wembury, 2.8 - larvae (Agassiz *et al* 1994 & Heckford 1993); GLAMORGAN (41): The Gower, 19.8 - 3 larvae from *Pulicaria dysenterica*; 20.8 - 2 larvae (different locality to those on the 19th) (Agassiz *et al* 1994 & Heckford 1993).

Summary: (1): 1; (3): 2 (+ larvae and cocoons); (41): 5 larvae.

#### YPONOMEUTIDAE

#### Yponomeuta evonymella (Linnaeus) [I?]

SOUTH HAMPSHIRE (11): Southsea, 8.7 - 1; 30.7 - 1 (JRL); SOUTH-EAST YORKSHIRE (61): Spurn, 2.7; 22.7 (BS).

#### **PYRALIDAE**

#### Euchromius ocellea (Haworth) [I]

DORSET (9): Portland, 19.9 & 22.9 (Agassiz et al 1994); Studland, 28.9 (DB).

#### Evergestis extimalis (Scopoli) [I?/V?]

Note: Records outside Thames Estuary and Breckland only.

DORSET (9): Portland, Freshwater Bay, 8.8 - 1 (JEC); SOUTH-EAST YORKSHIRE (61): Spurn, 30.7 (BS).

#### Hellula undalis (Fabricius) [I]

WEST CORNWALL (1): The Lizard, 17.9 - 3 (DB); 18.9 - 1 (AG); DORSET (9): Gaunts Common, 19.9 - 1 (PD).

#### Udea fulvalis (Hübner) [R(t)]

DORSET (9): Highcliffe, 5 noted between 10 & 19.9, a probable colony (Agassiz *et al* 1994 & Wild 1992).

#### Margaritia sticticalis (Linnaeus) [I]

WEST CORNWALL (1): The Lizard, 17.9 - 1 (DB); DORSET (9): Portland, 10.8 - 1 (RD); St. Albans Head (=St. Aldhelm's Head), 7.8 - 1 (Davey 1993a): EAST KENT (15): Greatstone, 13.9 - 1 male (BB per SPC); SOUTH ESSEX (18): Bradwell-on-Sea. 10.7 - 1; 31.8 - 1 (AJD).

#### Uresiphita polygonalis (Denis & Schiffermüller) [I]

WEST CORNWALL (1): Coverack, 16.9 - 1; 19.9 - 1 (DB); The Lizard, 17.9 - 1 (DB; DORSET (9): Charmouth, 8.10 - 1 (B.L. Statham per BFS); Portland, 28.9 - 1 (MC); Studland, 29.9 - 1 (DB); ISLE OF WIGHT (10): Chale Green, 19.9 - 1 (SC per SAKJ).

#### Sitochroa palealis (Denis & Schiffermüller) [I?/R?/R(t)?]

Note: Possible immigrant examples only.

DORSET (9): Durlston, 30.7 - 1 (Davey 1993a); Durlston, 8.8 - 1 (PD); Durlston Head, 2.8 - 1 (DAY); Portland, 31.7 - 1 recorded by day (DAY); SOUTH HAMPSHIRE (11): Chilling, Warsash, 4.8 - 1 (PMP); Southsea, 7.8 - 1 (JRL) (probably resident); Titchfield Haven LNR, 8.8 - 1 (AFS); EAST KENT (15): Dungeness, 7.7 (SPC); 24.7 (DW per SPC); New Romney , 24.7 (KR per SPC); OXFORDSHIRE (23): Long Wittenham, Abingdon, 22.7 - 1; 24.7 - 1; 25.7 - 1; 30.7 - 1 (DO).

Summary: (9): 4; (11): 3; (15): 3; (23): 4.

#### Paracorsia repandalis (Denis & Schiffermüller) [I]

DORSET (9): St. Albans Head (=St. Aldhelm's Head), 27.9 - 1 (Agassiz et al 1994 & Davey 1993a).

#### Ostrinia nubilalis (Hübner) [I?/R?]

Note: Records outside Thames estuary only.

SOUTH SOMERSET (5): Chard Junction, 6.6; 7.6 (JB per KB); DORSET (9): Durlston, 17.9 (Agassiz *et al* 1994); Gaunts Common, 17.9 - 2; 27.9 -1 (PD); Portland, 30.6 - 1; 1.7 - 1;9.8 - 1; 26.9 - 1 (MC); 8.8 - 1 (JRL & RJH); St. Albans Head (=St. Aldhelm's Head), 26.9 - 3; 27.9 - 2 (PD); Studland, 28.9 (DB); ISLE OF WIGHT (10): Chale Green, 23.6 - 1; 25.6 - 1; 31.8 - 1; 21.9 - 3; 25.9 - 1 (SC per SAKJ); Freshwater, 4.7 - 1; 23.7 - 1; 28.9 - 1 (SAKJ); SOUTH HAMPSHIRE (11): Chilling, Warsash, 30.6 - 1 (PMP); Hengistbury Head, 18.9 - 1 (MJ); Southsea, 21.6 - 1; 14.7 - 1 (JRL); Sparsholt, 26.9 - 1 (AHD); Titchfield Haven LNR, 27.5 - 1; 2.7 - 1; 27.9 - 2 (AFS); EAST SUSSEX (14): Peacehaven, 23.6 - 1; 29.6 - 2; 30.6 - 1; 12.7 - 1; 14.7 - 1; 22.7 - 1; 26.9 - 1 (CRP); BERKSHIRE (22): Longworth, Abingdon, 27.9 - 1 female (AK); OXFORDSHIRE (23): Fernham, 15.8; 18.9 (Agassiz *et al* 1994); HUNTING-DONSHIRE (31): Grafham Water, 26.9 - 1 (BD).

Summary: (5): 2; (9): 15; (10): 11; (11): 9; (14): 8; (22): 2; (31): 1.

#### Diasemia reticularis (Linnaeus) [I]

CAERNARVONSHIRE (49): Treborth Botanic Garden, Bangor, 24.6 (N. Brown et al, per Mrs M.J. Morgan. See also Morgan 1993).

#### Palpita unionalis (Hübner) [I]

DORSET (9): Portland, 1.6 1 (MC); 8.8 - 1 (JRL & RJH); St. Albans Head (=St. Aldhelm's Head), 26.9 - 4; 27.9 - 1 (PD & Davey 1993a); Studland, 29.9 - 1 (DB); Swanage, 27.9 - 2; 28.9 (DB); ISLE OF WIGHT (10): Freshwater, 18.8 - 1; 20.8 - 1; 30.9 - 1 (SAKJ); EAST KENT (15): Dungeness, 25.9 (SPC); 27.9 - 1 (TR); Greatstone, 28.9; 29.9 (BB per SPC); Kingsgate, 27.8 - 1 (FS per TWH); Littlestone, 27.9 (KR per SPC); Parkgate Down, 16.8 - 1 (Dr I.C. Beavis per AME); SOUTH ESSEX (18): Bradwell-on-Sea, 27.9 - 2; 28.9 - 2; 29.9 - 1; 3.10 - 1 (AJD); EAST NORFOLK (27): nr. Cromer, 2.10 - 1 (RC<sup>2</sup> Per DB); NOTTINGHAMSHIRE (56): Newstead Abbey Park, 29.9 - 1 (KC).

Summary: (9): 11; (10): 3; (15): 7; (18): 7; (27): 1; (56): 1.

#### Sciota adelphella (Fischer von Röslerstam) [R/R(t)?]

EAST KENT (15): Dungeness, 8.7. - 1 (Skinner 1995a); Greatstone, 8.7 - 1; 15.7 - 1 (Skinner 1995a); 23.8 - 1 larva on *Salix alba* (Skinner 1995a); Lydd, 10.7 - 1 (Skinner 1995a); New Romney, 18.7 - 2 (Skinner 1995a).

Summary: (15): 6 and 1 larva.

#### Acrobasis tumidana (Denis & Schiffermüller) [I]

DORSET (9): Portland, 10.8 - 1 (Skinner 1995b); WEST SUSSEX (13): Pagham, 14.8 - 1 (Skinner 1995b); EAST KENT (15): Dungeness, 17.8 (Skinner 1995b); Greatstone, 1.8; 10.8 (Skinner 1995b); CHANNEL ISLANDS (113): Moulin Huet, Guernsey, 4.7 (Austin 1992).

#### Zophodia grossulariella (Zincken) [I]

WEST NORFOLK (28): Rockland, 26.5 (Agassiz et al 1994).

#### Ancylosis oblitella Zeller [I/R?/R(t)?]

DORSET (9): Portland, 16.5 to 29.5 - 4; 23.6 - 2; 1.7 - 1; 11.7 - 1 (MC); Swanage, 22.5 - 1 (Agassiz *et al* 1994); ISLE OF WIGHT (10): Chale Green, 23.6 (Agassiz *et al* 1994): NORTH HAMPSHIRE (12): Leckford, 21.7 (Agassiz *et al* 1994): EAST KENT (15): Dungeness, 7.7 (Agassiz *et al* 1994); WEST NORFOLK (28): Rockland, 6 (PGC per DH).

Summary: (9): 9; (10): 1; (12): 1; (28): 1.

#### **PAPILIONIDAE**

#### The Swallowtail Papilio machaon Linnaeus (? gorganus Fruhstorfer) [I]

Note: Except where given the subspecies was not stated for the following records. DORSET (9): Charmouth, 22.5 - 1, subsp. *gorganus* (per DD); HERTFORDSHIRE (20): Ware, 8 (exact date not given) (I. Watson per GRE & LR); CHANNEL ISLANDS (113): Le Bigard, Guernsey, 23.5 - 1 (C. Winch per RAA).

#### **PIERIDAE**

#### Pale Clouded Yellow Colias hyale (Linnaeus) [I]

[OXFORDSHIRE (23): Radley Gravel Pit, nr. Abingdon, 14.7, record requires confirmation (per DD)]; NORFOLK: 20.5, locality not given (Bowles 1992b); [STERLING (86): Causewayhead, 30.7; 7.8, both only possible sightings (Hancock 1994); Ardrisaig, 5, a possible sighting (F.R.E. Durie per Hancock (1994)].

# Berger's Clouded Yellow C. alfacariensis Ribbe or Pale Clouded Yellow C. hyale (Linnaeus) [I]

GLAMORGANSHIRE (41): Tylorstown, 28.6 (Price 1992); CO. DUBLIN (H21): Skerries, date not given (H.Bird per KGMB).

#### Clouded Yellow C. croceus (Geoffroy) [I]

Note: Widely recorded and large numbers seen. Only the earliest (up until 16.5) and the November records are given here. Unlike the records for other species these are listed in date order. Full details are not given for the records from 9.5 to 16.5.

MAIN ARGYLL (98): Loch Awe, "late April" (Lady M. Stewart per Hancock (1992)); DORSET (9): Worth Matravers, 5.5 - 2 males (SC<sup>2</sup>); AYRSHIRE (75): 9.5 (T. McFadzean per Hancock (1992)); 10.5 (T. McFadzean per Hancock (1992)); WIGTOWNSHIRE (74): 13.5 (P. Hopkins per R. Sutcliffe). On 14.5, recorded from following VCs: (1); (2); (3); (9); (72); (73); (H37); (H38). On 15.5, recorded from the following VCs: (1); (3); (4); (10); (14); (44); (61); (69); (70); (71); (73); (96); (106); (H38). On 16.5, recorded from the following VCs: (1); (3); (7); (8); (13); (14); (44); (61); (70); (72); (73); (74); (75); (77); (98); (99); (100); (101); (103); (104); (106); (108); (110); (H33); (H36); (H38); (H39).

November records: SOUTH ESSEX (18): Bradwell-on-Sea, 5.11 (AJD); GLAMORGANSHIRE (41): site details not given, 8.11 (per DD); SOUTH DEVON (3): Buckfastleigh, 15.11 (J. Walters).

#### Bath White Pontia daplidice (Linnaeus) [I]

ISLE OF WIGHT (10): Godshill, 5.5, caught in a greenhouse (D.B. Wooldridge per B.S. Lyell).

#### LYCAENIDAE

#### Short-tailed Blue Everes argiades (Pallas) [I]

EAST SUSSEX (14): Hastings, 15.8 - 1 male found at rest (I. Galbraith per CRP).

#### NYMPHALIDAE

#### Large Tortoiseshell Nymphalis polychloros (Linnaeus) [I]

EAST KENT (15): Lydd, 31.8 (KR per SPC); HERTFORDSHIRE (20): 6.7 - 1, site details not given (Pittman 1992); WILTSHIRE: Little Langford Down, no date given (D. Simpson-Green per Fuller (1993)); [LANARK (77): Scotstoun, Glasgow: 7 - 4 or 5 (released after breeding, K. Ashton per Hancock (1994))].

#### Camberwell Beauty N. antiopa (Linnaeus) [I]

DEVON: locality not given, 6.3 (Bowles 1992a); SURREY (17): Oxshott, no date given (R.W. Deacon per GRE & LR); WARWICKSHIRE (38): Bearly, 27.9 (IR2 per DB); CHANNEL ISLANDS (113): Herm, 27.9 - 1 (J. Keen per Austin (1992)).

#### DANAIDAE

#### The Monarch Danaus plexippus (Linnaeus) [I]

SUSSEX: [17.9, a possible sighting, site details not given]; 20.9 (Bowles 1992c); CAMBRIDGESHIRE (29): Wicken Fen, 6.8 - 1 (per B.O.C. Gardiner); WORCESTERSHIRE (37); Broadway, 24.7 - 1 (J. Parsons).

#### DREPANIDAE

#### Dusky Hook-tip Drepana curvatula (Borkhausen) [I]

SOUTH ESSEX (18): Bradwell-on-Sea, 28.5 - 1 male (AJD).

#### GEOMETRIDAE

#### Blair's Mocha Cyclophora puppillaria Hübner [I]

SOUTH WILTSHIRE (8): Bentley Wood, 28.7 - 1; 30.7 - 2 (B. Fox per P. Waring); DORSET (9): Durlston, 8.8 - 1 (Davey 1993b); Portland, 30.7 - 1 (MC); EAST KENT (15): Densole, 27.9 (Rouse 1993); WEST SUFFOLK (26): West Stow, 15.8 - 1 female (RE).

#### Sub-angled Wave Scopula nigropunctata (Hufnagel) [I]

EAST KENT (15): Dungeness, 30.7 - 1 male (SPC).

#### Tawny Wave S. rubiginata (Hufnagel) [I]

NORTH LINCOLNSHIRE (54): Gibraltar Point, 1.8 (CH<sup>2</sup> & KW per RJ).

#### Least Carpet Idaea vulpinaria atrosignaria Lempke [I?/R?]

Note: Records outside south-east England only.

SOUTH DEVON (3): Abbotskerswell, 31.5 - 1 (BPH); DORSET (9): Portland, 20.7 - 1 (MC); ISLE OF WIGHT (10): Niton, 6.8 - 2 (different localities) (per SAKJ).

#### The Vestal Rhodometra sacraria (Linnaeus) [I]

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county (or county). Where no numbers were given for an individual record, it was taken to be one. Hence, the totals are likely to be approximate. This is followed by the monthly representation of the records. In a very few cases it was impossible to assign a given record to an individual month. As with the totals for the vice-counties, the monthly totals are likely to be approximate.

(1): 62; (2): 5; (3): 8; Somerset: 1; (9): 55; (10): 11; (11): 14; (12): 10; (13): 10; (14): 6; (15): 21; (16): 2; (17): 2; (18): 17; (20): 1; (22): 6; (23): 3; (26): 1; (27): 3; (28): 1; (38): 3; (41): 1; (54): 1; (56): 1; (71): 10; (72): 1; (113): 5.

May: 25; June: 2; July: 19; August: 100; September: 117; October: 8.

Earliest date: 14.5 - 1, Tregarne, Cusgarne, West Cornwall (1) (AS).

14.5 - 1, Gaunts Common, Dorset (9) (PD).

14.5, Binstead, Isle of Wight (10) (B.J. Warne per SAKJ).

14.5, Lydd, East Kent (15) (KR per SPC).

Latest date: 2.10, Bentley, North Hampshire (12) (ARC).

2.10, East Stratton, North Hampshire (12) (BI-J).

2.10, Uffington, Berkshire (22) (Classey 1993).

#### The Gem Orthonama obstipata (Fabricius) [I]

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county (or county). Where no numbers were given for an individual record, it was taken to be one. Hence, the totals are likely to be approximate. This is followed by the monthly representation of the records. In a very few cases it was impossible to assign a given record to an individual month. As with the totals for the vice-counties, the monthly totals are likely to be approximate.

(1): 34; (2): 2; (3): 4; (5): 4; (6): 1; (9): 25; (10): 2; (11): 9; (12): 2; (13): 11; (14): 1; (15): 9; (18): 2; (20): 3; (22): 2; (23): 1; (38): 3; (49): 1; (69): 2; (71): 2; (H5): 1. May: 18; June: 4; July: 17; August: 12; September: 52; October: 5; November: 6.

Earliest date: 16.5, Woolston, South Hampshire (11) (ARC).

Latest date: 23.11 - 1, Walberton, West Sussex (13) (JTR per CRP).

#### [Cypress Carpet Thera cupressata Geyer [R(i)]

Note: All records probably represent resident examples.

DORSET (9): Durlston Country Park, 30.6 - 1 (RJHM); Portland, 10.6 - 1; 20.6 - 1 (MC); ISLE OF WIGHT (10): Chale Green 28.11 (Colenutt 1993); St. Lawrence, 17.9 - 2 fresh males (JC); CHANNEL ISLANDS (113): Guernsey, regularly recorded between 13.6 and 18.7 (Austin 1992); Guernsey, regularly recorded between 20.9 and 5.11 (Austin 1992).]

# Goosefoot Pug Eupithecia sinuosaria Eversmann [I?]

NORTH SOMERSET (6): Berrow, 13.6 (Slade & Agassiz 1992); HERTFORDSHIRE (20): Knott Wood, Harpenden, recorded between 19 & 21.6 - 1, (Townsend & Riley 1992).

# The Channel Islands Pug Eupithecia ultimaria Boisduval [I?/R?]

WEST SUSSEX (13): Climping, 27.6 (JTR per BFS).

# Dusky Peacock Semiothisa signaria (Hübner) [I]

EAST KENT (15): Dover, 1.6 - 2 (Harman 1993); Kingsgate, 29.5 - 1 (Harman 1993): HERTFORDSHIRE (20): Harpenden, 2.7 - 1 (Townsend, 1993).

#### Rannoch Looper Semiothisa brunneata (Thunberg) [I]

SURREY (17): Lingfield, 12.6 - 1 "very large fresh male" (JC); NOTTINGHAMSHIRE (56): Newstead Abbey Park, 14.6 - 1 (KC); MID-WEST YORKSHIRE (64): Harrogate, 13.6 - 1 (recorded by Dr G.T. Foggit per Riley (1993)).

#### **SPHINGIDAE**

#### Convolvulus Hawkmoth Agrius convolvuli (Linnaeus) [I]

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county (or county). Where no numbers were given for an individual record, it was taken to be one. Hence, the totals are likely to be approximate. This is followed by the monthly representation of the records. In a very few cases it was impossible to assign a given record to an individual month. As with the totals for the vice-counties, the monthly totals are likely to be approximate.

(1): 39+; (3): 8; Devon (Tiverton): 1; (6): 1; (9): 49; (10): 13; (11): 6; (12): 2; (13): 13; (14): 29; Sussex: 1; (15): 56; (16): 2; (17): 2; (18): 12; (19): 2; (23): 1; (27): 7; (28): 1; (38): 1; (44): 1; (53): 1; (54): 6; (55): 1; (58): 1; (61): 2; (62): 2; (70): 2; Cumbria: 1; (71): 1; (90): 1; (91): 4; (92): 6; (93): 4; (94): 2; (95): 3; Maureen "A" Platform, North Sea, 1; (108): 1; (111): 30+; (112): 19; (113): 6; (H3): 1; (H4): 1; (H37): 1 (possibly 2); (H38): 2; (H39): 1; Northern Ireland, Dundalk: 1.

May: 7; June: 3; July: 2 (+ larva); August: 94; September: 201+; October: 6; November: 1.

Earliest date: 23.5 - 1, St. Alban's Head, Dorset (9) (PD).

Latest date: 2.11 - 1 found dead, Walton-on-Naze, North Essex (19) (J. Pyle per CRP).

#### Death's-head Hawkmoth Acherontia atropos (Linnaeus) [I]

WEST CORNWALL (1): St. Agnes, Isles of Scilly, 9.9 (remains found in bee-hive) 26.9 (JWH & MEH); NORTH SOMERSET (6): North Cadbury, 23.9 (R. Wheeler per KB); SOUTH HAMPSHIRE (11): Lymington, 14.9 (Pickles & Pickles 1993); WEST SUSSEX (13): Southwick, second week of 9 - 1 (per DD); EAST SUSSEX (14): Hastings, 17.9 - 1 (N. Smith per CRP); SOUTH ESSEX (18): Bradwell-on-Sea, 12.9 - 5 larvae on spindle bushes (AJD); Canewdon, 8.10 (GAP per BG<sup>2</sup>); Colchester, 26.9 - 1 female found dead (K. Mills per JPB); Southminster, no date but recorded in the "autumn" (GAP per BG2); The Street, Bradfield, 4.8 - 1 seen to alight on a tree trunk at 9.00am, flew off when approached (D. Barnden per JPB); "EAST NORFOLK" ("27"): Blakenbury, 22.9 (recorded at sea) (A, Hobbs per SAKJ); WEST GLOUCESTERSHIRE (34): Severn Beach, 6.8 - 1 at rest on a telegraph pole (P.M. Thompson); SOUTH-EAST YORKSHIRE (61): Spurn, 18.9 - 1 (BS); CUMBERLAND (70): Petteril Bank, Carlisle, 19.9 - 1 (DWK); ISLE OF MAN (71): Ballachristory, 9.8 - 1 larva (recorder not given, per GDC); Castletown, 14.9 - 1 (recorder not given, per GDC); AYRSHIRE (75): Barr, late 5 - 1 found dead (C. Woodward per Hancock (1994)); SOUTH ABERDEENSHIRE (92): Cults, Aberdeen, 18.9 (K. Carter per MRY); SHETLAND ISLANDS (112): Scalloway, 23.9 (J.S. Blackadder per MGP); Sullom Voe Terminal, 1.6, date of the record is approximate (R. Gallagher per MGP); MID CORK (H4): Rochestown, 14.9 - 1 (D. Fair per KGMB); EAST CORK (H5): Youghal, 11.8 - 1 larva (KGMB).

Summary: (1): 2; (6): 1; (11): 1; (13): 1; (14): 1; (18): 4 (+ 5 larvae); ("27"): 1; (34): 1; (61): 1; (70): 1; (71): 1 and 1 larva; (75): 1; (92): 1; (112): 2; (H4): 1; (H5): 1.

#### Pine Hawkmoth Hyloicus pinastri (Linnaeus) [I?/V?]

Note: Possible immigrant examples only.

EAST KENT (15): Greatstone, 24.5; 21.7 (BB per SPC); Lydd, 22.5; 28.5; 31.5 (KR per

SPC); NORTH ESSEX (19): Saffron Walden, 8.7 (AME per BG<sup>2</sup>); St. Osyth, 23.6; 14.7 (RWA per BG<sup>2</sup>); SOUTH-EAST YORKSHIRE (61): Spurn, 30.6 - 1 (BS).

#### Humming-bird Hawkmoth Macroglossum stellatarum (Linnaeus) [I/R(t)?/R?]

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county (or county). Where no numbers were given for an individual record, it was taken to be one. Hence, the totals are likely to be approximate. This is followed by the monthly representation of the records. In a very few cases it was impossible to assign a given record to an individual month. As with the totals for the vice-counties, the monthly totals are likely to be approximate.

(1): 58+ (+ 1 larva); (2): 1; Cornwall: 1; (3): 32+; (5): 2; (6): 9; (9): 30; (10): 5; (11): 4; (12): 10; (13): 12+; (14): 38; Sussex: 3; (15): 2; (16): 3; (17): 1; (18): 11; (19): 5; (20): 6; (21): 1; (22): 3 (1 ovipositing on *Galium aparine*); (23): 1; (24): 3; (25): 1; (27): 3; (28): 2+; (29): 1; (31): 1; (32): 3; (33): 1; (34): 1; (35): 1; (38): 2; (39): 1; (45): 2+; (53): 1; (54): 6; (56): 7; (57): 3; (58): 4; (59): 2; (60): 3; (61): 14; (62): 2; (63): 1; (64): 2; (69): 3; (70): 5; Cumbria: 1; (71): 9; (72): 1; (73): 1; (74): 1; (75): 1; (77): 1; (83): 1; (86): 1; (91): 2; (92): 4; (93): 1; (112): 7; (113): 13; Co. Kerry: 1; (H3): 1; (H4): 5; (H9): 2; Co. Galway: 1; (H21): 1; (H33): 8+; (H36): 3; (H37): 10; (H38): 50; (H39): 41; Northern Ireland; "dozens".

February: 2; March: 2; April: 5; May: 133; June: 55+; July: 26 (+ 1 larva); August: 190+; September: 69+; October: 5.

Earliest date: 29.2 - 1, Brighton, Sussex (T. Toohig per CRP).

29.2 - 1, Chichester, West Sussex (13) (M. Green per CRP).

Latest date: 29.10, Newmilns, Ayrshire (75) (N. Young per Hancock (1994)).

#### Bedstraw Hawkmoth Hyles gallii (Rottemburg) [I]

SOUTH SOMERSET (5): Kingsbury Episcopi, 8.8 (RC per KB); NORTH HAMPSHIRE (12): East Stratton, 8.6 - 1 (BI-J); EAST KENT (15): Newington, 12.6 (REL); OXFORDSHIRE (23): Long Wittenham, Abingdon, 24.6 - 1 (DO); WEST NORFOLK (28): Hockwold, 1.8 - 1, last instar larva on *Galium verum* (JF); SOUTH-EAST YORKSHIRE (61): Bridlington, 22.6 (per PQW); EASTERNESS (96): Loch an Eilein, 17.8 (D. Carstairs per MRY); SHETLAND ISLANDS (112): Fetlar, 14.8 - larva (L. Baisley per MGP); Gloup, Yell, 16.6 (C. Guy per MGP).

#### Striped Hawkmoth H. lineata livornica (Esper) [I]

WEST CORNWALL (1): Praa Sands, nr. Helston, 20.5 -3; 22.5 - 1 (RD²); The Lizard. 19.8 - 2 (AJ per DB & Jenkins (1993)); SOUTH SOMERSET (5): Chard Junction, 17.5 (JB per KB); Kingsbury Episcopi, 21.5 (RC per KB); DORSET (9): Boscombe, Bournemouth, 2.6 - 1 found dead (M.M. Brooks); Chardstock, 14.5 - 2 (Jenkins 1993); Corfe, 20.5 - 1 (DB² per RJHM); Durlston, 23.5 - (P. Sharp per DB); Gaunts Common. 27.5 - 1 (PD); Portland, 23.5 - 1; 20.8 - 1 (MC); Shillingstone, 21.8 - 1 (N. Butt); St. Albans Head (= St. Aldhelm's Head), 15.5 - 1 (PD); 23.5 - 1 (Davey 1993); 27.5 - 1 (PD); Swanage (Durlston Country Park), 14.5 - 2; 15.5 - 1; 22.5 - 2 (BFS); 22.5 1; 24.5 - 2; 25.5 - 3; 26.5 - 1; 31.5 - 1 (DB); 21.5 - 1; 22.5 - 4 (RJHM); 25.5 - 1; 26.5 - 1 (JC); ISLE OF WIGHT (10): nr. Shalfleet, 28.5 - 1 (Waring 1994); SOUTH HAMPSHIRE (11): Brockenhurst, 13.5 - 1 (JEC); East End, nr. Lymington, 10.8 - 1 (D. Reas); Titchfield Haven LNR, 16.9 - 1 (AFS); WEST SUSSEX (13): Littlehampton, 3.6 - 1 (Mrs R. Pratt per CRP); EAST SUSSEX (14): Peacehaven, 1.6 - 1 (CRP); Ringmer, 26.5 - 1 (AB per CRP); EAST KENT (15): Dungeness, 25.5 - 1 (KR per SPC); Hamstreet, 27.5 - 1 (NRD per SPC); SOUTH ESSEX (18): Bradwell-on-Sea, 20.5 - 1 female (SD);

NORTH ESSEX (19): Saffron Walden, 9.8 (AME per BG<sup>2</sup>); HUNTINGDONSHIRE (31): Ramsey Heights Clay Pits, 26.5 - 1 (NN per BD); NORTHAMPTONSHIRE (32): Castor Hanglands, 22.5 -1 (Waring 1994); CHANNEL ISLANDS (113): Forest, Guernsey, 6.9 - 1 (TNDP); WEST CORK (H3): Trafrask, 26.5 - 1 (KGMB); MID CORK (H4): Cork, 27.5 -1 (L. O'Flynn per KGMB); SOUTH-EAST GALWAY (H15): Leigh South, 1.6 - 3; 4.6 - 1 (BE & BFS, see also Elliott & Skinner 1993); (H38): Bangor, 16.5 (D. Mc'Anally & D. Allen per IR).

Summary: (1): 6; (5): 2; (9): 33; (10): 1; (11): 3; (13): 1; (14): 2; (15): 2; (18): 1; (19): 1; (31): 1; (32): 1: (113): 1; (H3): 1; (H4): 1; (H15): 4; (H38): 1.

#### Silver-striped Hawkmoth Hippotion celerio (Linnaeus) [I]

CHANNEL ISLANDS (113): St. Peters, Guernsey, 27.9 - 1 (Dr P.D.M. Costen).

#### NOTODONTIDAE

#### Three-humped Prominent Tritophia tritophus (Denis & Schiffermüller) [I]

EAST SUFFOLK (26): Walberswick, 24.7 (recorded by I. Whapshott per BFS).

#### THAUMETOPEIDAE

#### Oak Processionary Thaumetopoea processionea (Linnaeus) [I]

EAST KENT (15): Dungeness 9.8 - 2 males (DW per SPC); Greatstone, 10.8 - 1 male (RET per SPC).

#### LYMANTRIIDAE

#### Brown-tail Euproctis chrysorrhoea (Linnaeus) [I?/V?/R?]

Note: Record outside known resident range.

SOUTH-EAST YORKSHIRE (61): Spurn, 23.7 - 1 (BS).

#### Gypsy Moth Lymantria dispar (Linnaeus) [I]

SOUTH SOMERSET (5): Kingsbury Episcopi, 18.8 (RC per KB); EAST KENT (15): Greatstone, 25.8 - 1 male, (BB per SPC); CHANNEL ISLANDS (113): Forest, Guernsey, 16.7 - 1 (TNDP).

#### ARCTIIDAE

#### Dotted Footman Pelosia muscerda (Hufnagel) [I]

SOUTH ESSEX (18): Bradwell-on-Sea, 19.9 - 1 (SD).

#### Hoary Footman Eilema caniola (Hübner) [I?/V?]

DORSET (9): Durlston Country Park, 18.8 - 1 (RJHM); ISLE OF WIGHT (10): Freshwater, 20.8 - 1 (Knill-Jones 1993).

#### Pigmy Footman E. pygmaeola (Doubleday) [I?/V?]

Note: Subspecies not recorded.

DORSET (9): Portland, 30.7 - 1 (MC).

#### Four-spotted Footman Lithosia quadra (Linnaeus) [I]

DORSET (9): Durlston Country Park, 9.7 - 2 (RJHM); EAST KENT (15): Hamstreet, 18.9 - male (M. Tickner per SPC).

#### Speckled Footman Coscinia cribraria arenaria (Lempke) [I]

CHANNEL ISLANDS (113): Burnt Lane, Guernsey, 4.7 - 1 (W. Angel per Austin (1992)); Forest, Guernsey, 16.7 - 1, continental form (TNDP).

#### Crimson Speckled Utetheisa pulchella (Linnaeus) [I]

WEST CORNWALL (1): Coverack, 18.9 - 1; 20.9 - 1 female (DB); SOUTH SOMERSET (5): Kingsbury Episcopi, 17.9 (RC per KB); SOUTH HAMPSHIRE (11): Sandy Point, Hayling Island, 19.9 - 1 (I. Thirlwell per PMP); WEST SUSSEX (13): Walberton, 21.9 - 1 (JTR per CRP); EAST KENT (15): Dymchurch, 26.9 - 1 (JO).

#### Jersey Tiger Euplagia quadripunctaria (Poda) [I?/R(t)?/V?]

DORSET (9): nr. Burton-Bradstock, 31.7 - 4, including 1 ab. *lutescens* and one with orange hindwings; 7.8 - 2 including one with orange hindwings (Parker 1992); Portland, 8.8 - 1 ab. *lutescens* (Langmaid 1993); Portland, 5.8 - 1 (MC); EAST SUSSEX (14): Eastbourne, 5.8 - 1 recorded at rest by day (J. Sellens per CRP).

#### **NOLIDAE**

Kent Black Arches *Meganola albula* (Denis & Schiffermüller) [I?/V?] SOUTH-EAST YORKSHIRE (61): Spurn, 29.7 - 1 (BS).

#### NOCTUIDAE

Great Dart Agrotis crassa (Hübner) [I]

DORSET (9): Portland, 30.7 - 1 (MC).

#### Purple Cloud Actinotia polyodon (Clerck) [I]

SOUTH ESSEX (18): Bradwell-on-Sea, 31.5 - 1 female (AJD).

#### Great Brocade Eurois occulta (Linnaeus) [I/V?]

WEST SUSSEX (13): Walberton, 8.7 - 1 (JTR per CRP); EAST KENT (15): Lydd, 5.7 - 1 male (KR per SPC); SOUTH ESSEX (18): Bradwell-on-Sea, 8.7 - 1 male; 17.8 - 1 male (AJD); WEST SUFFOLK (26): Bury St. Edmunds, 23.6 - 1 male (RE); NORTH LINCOLNSHIRE (54): Gibraltar Point, 10.7 (CH² & KW per RJ); BANFFSHIRE (94): near Cornhill, 15.8 - 1; 16.8 - 1; 8.7 - 1 (RL); ORKNEY ISLANDS (111): Costa, Birsay, 11.8 - 1 (K. Fairclough per RIL); Orphir, 10.8 - 1; 12.8 - 1; 17.8 - 1, also an additional record between 10.8 & 17.8 but precise date not given (RIL); SHETLAND ISLANDS (112): Baltasound, 15.8; 16.8; 17.8; 24.8 - 2 (MGP); Toab, 14.8 (J. & A. Clifton per MGP).

Summary: (13): 1; (15): 1; (18): 2; (26): 1; (54): 1; (94): 3; (111): 5; (112): 6.

#### Pale Shining Brown Polia bombycina (Hufnagel) [I]

EAST KENT (15): New Romney, 30.6 - 1 of grey continental form (KR per SPC).

#### White-point Mythimna albipuncta (Denis & Schiffermüller) [I/R(t)?]

WEST CORNWALL (1): Coverack, The Lizard, 17.9 - 1; 18.9 - 1 (DB); Kynance, The Lizard, 19.8 - 2; 20.8 - 1 (DB); St. Agnes, Isles of Scilly, 7.6 - c.5; 15.9 (JWH & MEH): SOUTH DEVON (3): nr. East Prawle, 19.9 (Baker 1993); SOUTH SOMERSET (5): Crewkerne, 31.8 - 1 male (Reid 1993); DORSET (9): Corfe, 29.8 - 1; 3.9 - 1; 4.9 - 1; 18.9 - 1; 19.9 - 2; 20.9 - 1 (DB² per RJHM); Durlston, 6.9 - 1; 17.9 - 1 (PD); 25.5 - 2 (JC); Durlston Country Park, 20.8 - 2; 17.9 - 1 (RCK); 8.6 - 1; 21.8 - 1; 18.9 - 4; 20.9 - 1 (RJHM); 30.7 - 5; 8.8 - 2 (PD); 9.9 - 1 (per RJHM, recorder not given); Gaunts Common, 18.8 - 1; 17.9 - 1 (PD); Portland, 23.5 - 1; 24.6 - 1; 20.8 - 1; 21.8 - 1; 29.8 - 2 and 5 more to 18.9 (MC); Radipole School, Weymouth, 16.9 - 1; 20.9 - 1 (NA): St. Albans Head (= St. Aldhelm's Head), 27.5 - 1; 7.8 - 1; 26.9 - 1 (PD); Studland, 1.8 - 1 (DB); Swanage, 25.5 - 1; 22.9 - 1; 27.9 - 1 (DB); West Bexington, 4.6 - 1; 6.6 - 2; 10.6 - 1; 18.8 - 2; 21.8 - 1; 19.9 - 1 (RME); ISLE OF WIGHT (10): Chale Green, 23.6 - 1; 24.6

- 1; 28.6 - 1; 7.9 - 1; 20.9 - 1 (SC per SAKJ); Freshwater, 7.9 - 1; 9.9 - 1; 12-9 - 1; 14.9 - 1; 18.9 - 1; 22.9 - 1; 28.9 - 1; 30.9 - 1 (SAKJ); Niton, 8.7; 2.8; 16.9 (AW per SAKJ); St. Lawrence, 12.9 - 1 female; 14.9 - 1 female; 15.9 - 2; 16.9 - 8; 17.9 - 1; 18.9 -2 (JC); SOUTH HAMPSHIRE (11): Chilling, Warsash, 6.9 - 2 (PMP): Soberton, 20.8 - 1 (JRL); NORTH HAMPSHIRE (12): East Stratton, 15.8 - 1 (BI-J); WEST SUSSEX (13): Church Norton, 24.6 - 1 (JTR per CRP); Petworth, 21.8 - 1 (SPC); Walberton, 19.6 - 1; 21.6 - 1; 24.8 -1; 25.8 - 1; 26.8 - 1; 27.8 - 2; 30.8 - 1; 1.9 - 2; 17.9 - 1; 19.9 - 1 (JTR per CRP); EAST SUSSEX (14): East Grinstead, 31.8 - (DH2 per CRP); Icklesham, 17.8 - 1; 18.8 - 2; 22.8 - 1; 25.8 - 1; 28.8 - 1; 1.9 - 1 (IH per CRP); Kingston, 12.9 - 3 (DH<sup>2</sup> per CRP); Peacehaven, 21.7 - 1; 23.8 - 1; 9.9 - 1; 10.9 - 1; 14.9 - 1; 17.9 - 1; 18.9 -1; 20.9 - 1 (CRP); EAST KENT (15): Densole, 26.8 - 2; 28.8 (TR); Dungeness, 23.5 -1; 10.8 - 1; 22.8 - 1; 25.8 - 1; 28.8 - 1; 4.9 - 1; 5.9 - 1; 20.9 - 1; (DW per SPC); 27.5 - 1; 2.6 - 1; 18.8 - 1; 21.8 - 1; 25.8 - 2; 28.8 - 2; 9.9 - 1; 10.9 - 1; 13.9 - 1 (SPC); 8.8 (GAC); 25.9 (TR); Dymchurch, 5.9 - 1 (JO); Greatstone, 31.5 - 1; 15.8 - 1; 16.8 - 1; 20.8 - 2; 27.8 - 1; 8.9 - 1; 10.9 - 1; 17.9 - 1 (BB per SPC); Hamstreet, 12.9 - 1 (NRD per SPC); Kingsgate, 18.8 - 1 (FS per TWH); Lydd, 24.5 - 1; 31.5 - 1; 2.6 - 1; 4.6 - 1; 10.6 - 1; 11.6 - 1; 12.6 - 1; 14.6 - 1; 26.8 - 3; 27.8 -2; 28.8 - 1; 31.8 - 1; 1.9 - 1 (KR per SPC); New Romney, 7.6 - 1, 7.8 - 1; 8.8 - 1; 28.8 - 1; 29.8 - 3 (KR per SPC); SURREY: Lingfield, 22.9 - 1 female (JC); SOUTH ESSEX (18): Bradwell-on-Sea, 4.8 - 1 male; 5.8 - 3 males, 1 female; 8.8 - 4 males; 9.8 - 7 males; 10.8 - 1 male; 13.8 - 1 male, 1 female; 14.8 - 2 males; 16.8 - 6 males; 17.8 - 3 males, 1 female; 18.8 - 4 males; 19.8 - 5 males; 20.8 - 12 males; 21.8 - 11 males; 23.8 - 1 female; 24.8 - 1 male; 25.8 - 4 males; 26.8 - 4 males; 27.8 - 2 males; 28.8 - 3 males; 29.8 - 1 male; 1.9 - 2 males; 2.9 - 2 males; 10.9 - 1 female; 19.9 - 1 male (AJD); 30.6 - 1 male; 10.8 - 1 male; 12.8 - 1 female; 17.8 - 1 male; 27.8 - 1 male (SD); NORTH ESSEX (19): Colne Point, 31.7 (RWA per GB<sup>2</sup>); Kirby Cross, 6.7 (R. Marsh per BG<sup>2</sup>); Kirby Cross, 6.7 (R. Marsh per BG2); St. Osyth, 18.8 (RWA per BG2); CHANNEL ISLANDS (113): Herm, between 21.8 and 28.8 (RJH per Austin (1992)); L'Ancresse, Guernsey, 31.5; 7.6; 21.8; 28.8; 4.9 (RAA); La Corbiere, Guernsey, 16.7 (GH, FH & DP per RAA); Le Bigard, Guernsey, 6.7 - 1 (GH, FH & DP per RAA); Petit Bot, Guernsey, 7.7; 12.7 (RAA); 14.7 (GH, FH & DP per RAA); Talbot Valley, Guernsey, 5.7 (RAA); The Dell, Guernsey, 11.7 (RAA).

Summary:(1): 11; (3): 1; (5): 1; (9): 60; (10): 31; (11): 3; (12): 1; (13): 15; (14): 19; (15): 59; (17): 1; (18): 90; (19): 3; (113): 13.

#### The Delicate M. vitellina (Hübner) [I/R(t)?]

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county (or county). Where no numbers were given for an individual record, it was taken to be one. Hence, the totals are likely to be approximate. This is followed by the monthly representation of the records. In a very few cases it was impossible to assign a given record to an individual month. As with the totals for the vice-counties, the monthly totals are likely to be approximate.

(1): 4852; (2): 30; (3): 72+; (5): 25; (6): 5; (8): 7; (9): 2040+; (10): 265; (11): 76; (12): 35; (13): 53; (14): 40; (15): 226; (17): 7; (18): 53; (19): 9; (22): 4; (23): 6; (24): 2; (26): 1; (27): 1; (28): 3; (29): 1; (31): 1; (32): 1; (33): 2; (38): 9; (41): 3; (45): 18; (49): 3; (56): 1; (61): 2; (63): 1; (64): 2; (69): 5; (71): 182; (72): 1; (113): 154; (H15): 9.

May: 431; June: 77; July: 5; August: 3355; September: 3687; October: 134; November: 6.

Earliest date: 15.5 - 9, Portland, Dorset (9) (MC).

Latest date: 9.11 - Freshwater, Isle of Wight (10) (SAKJ).

#### L-album Wainscot M. l-album (Linnaeus) [I?/R?]

Note: Records outside Sussex to Cornwall only.

EAST KENT (15): Densole, 28.9; 29.9; 30.9; 29.10 (TR); Dungeness, 28.9 - 1 (SPC); 29.9 (TR); Greatstone, 24.9 - 1 (BB per SPC); Ham Fen, 10.7 - 1 female (JC); Littlestone, 21.9 - 1 (KR per SPC); The Warren, 12.6; 26.9 (TR).

#### White-speck M. unipuncta (Haworth) [I]

WEST CORNWALL (1): Coverack, the Lizard, 15.9 - 1; 17.9 - 2 (DB); St. Agnes, Isles of Scilly, 1.8; 6.9 - 1 to greenhouse light; 14.9 (to sugar); 15.9; 15.9 (to sugar); 16.9 (to sugar); 17.9; 24.9; 26.9 - 2; 30.10 - 2; 4.11; 7.11; 14.11 (JWH & MEH); DORSET (9): Durlston, 5.1 - 1 (PD); Durlston Country Park, 25.5 - 2 (recorder not given, per RJHM); Portland, 22.4 - 1; 10.9 - 1 (MC); West Bexington, 17.8 - 1; 20.8 - 1; 21.8 - 1 (RME); ISLE OF WIGHT (10): Freshwater, 23.9 - 1 (SAKJ); EAST SUSSEX (14): Holywell, 27.9 - 1 (MSP); Icklesham, 31.8 - 1 (IH per CRP); SOUTH ESSEX (18): Bradwell-on-Sea, 30.9 -1 female (AJD); BUCKINGHAMSHIRE (24): Marlow Common, no date given (Wedd 1993); DERBYSHIRE (57): Chesterfield (BE per Viles 1995); ISLE OF MAN (71): Castletown 27.9 - 1; 28.9 - 1; 29.9 - 4 (GDC).

Summary: (1): 18; (9): 8; (10): 1; (14): 2; (18): 1; (24): 1; (57): 1; (71): 6.

#### The Cosmopolitan M. loreyi (Duponchel) [I]

WEST CORNWALL (1): Coverack, the Lizard, 14.9 - 1: 15.9 - 4: 16.9 - 4: 17.9 - 30: 18.9 - 50; 19.9 - 15; 20.9 - 6 (DB); Kynance, The Lizard, 19.8 - 100+; 20.8 - 20 (DB); Marazion, 19.9 - 1; 21.9 - 5; 23.9 - 2; 24.9 - 3; 25.9 -2 (RD<sup>2</sup>); Praa Sands, nr. Helston, 19.5 - 3; 20.5 - 4; 21.5 - 2; 22.5 - 4 (RD<sup>2</sup>); St. Agnes, Isle of Scilly, 15.9; 15.9 (to sugar); 16.9 (to sugar): 18.9 (to sugar) (JWH & MEH): The Lizard, 8.8 - 2: 9.8 - 1: 11.8 - 1: 14.8 - 4 (AG); 19.8 - 100+ (Jenkins 1993); Tregarne, Cusgarne, 9.9 - 1; 13.9 - 1 (AS); EAST CORNWALL (2): Carlyon Bay, St. Austell, 8.8 - 2; 11.9 - 1; 18.9 - 1 (WGK); Kings Wood, nr. St. Austell, 5.9 - 1 (WGK); Talland Bay, 5.6 - 1 (AS); Trevarrick Bay, St. Austell, 9.9 - 2 (WGK); SOUTH DEVON (3): Abbotskerswell, 17.9 - 1 female (BPH & Henwood 1993); nr. East Prawle, 18.9 - 1 female; 19.9 - "several" (18 recorded during stay in Devon) (Baker 1993); Heybrook Bay, 18.9 - 1 at ivy (RJH); nr. Shaldon, 18.9 - 1 (Baker 1993); Orchaton nr. Modbury, 6 - 1 female at house lights. Exact date not given; 10.8 - 1 male at sugar (Dr R. Dickson, det. JRL); Saltacrease, Kingston, 13.9 - 1 (AK); South Allington, 19.9 - 1 (AK); Teignmouth, 18.9 - 1 (B.R. Baker per N. Cleere); Torquay, 26.9 - 1 at ivy (RJH & BPH); SOUTH SOMERSET (5): Kingsbury Episcopi, 27.5; 18.8 (RC per KB); Yeovil, 27.9 (J. Day per KB); NORTH SOMERSET (6): Churchill, exact date not given (DJLA per KB); SOUTH WILTSHIRE (8): Dinton, 7.8 -1 (SMP); DORSET (9): Corfe, 26.8 - 3; 3.9 - 1 (DB<sup>2</sup> per RJHM); Durlston, 17.9 - 1 (PD); Durlston Country Park, 19.8 - 2 (recorder not given per RJHM); 20.8 - 2 (RCK); Gaunts Common, 15.8 - 1; 18.8 - 1; 25.8 - 1 (PD); Langton Matravers, 18.9 - 1 female (DHH); Portland, 15.5 - 2; 19.5 - 1 20.5 - 1; 25.7 - 1; 7.8 - 1; 8.8 - 3; 9.8 - 2; 10.8 - 1; 19.8 - 2; 20.8 - 3; 21.8 - 1; 22.8 - 3; 29.8 - 4; 16.9 to 27.9 - 10 (MC); 10.8 (RD); Portland, Freshwater Bay, 8.8 - 1 (JEC); Radipole School, Weymouth, 19.9 - 1 (NA); St. Albans Head, 20.9 - 3 (PD); Swanage, 22.9 - 1 (DB); West Bexington, 15.9 - 1 (RME, det. DO): Wimborne, 18.8 - 1 female (Cook 1993); ISLE OF WIGHT (10): Chale Green, 23.5 - 1; 6.8 - 1 (given as 9.8 in Colenutt (1993)) (SE per SAKJ); St. Lawrence, 12.9 - male (JC); SOUTH HAMPSHIRE (11): Chandlers Ford, 6.8 - 1 (BG); Southsea, 10.9 - 1 (JRL); Winchester, 27.8 (Sterling et al 1993); Woolston, 13.9 - 1 (ARC); NORTH HAMPSHIRE (12): Bentley, 29.8 - 1 (ARC); East Stratton, 4.9 - 1 (BI-J); WEST SUSSEX (13): Pagham, 15.8 - 1 female (RMc); Walberton, 28.8 -1; 2.9 - 1 (JTR per CRP); EAST SUSSEX (14): Peacehaven, 8.9 - 1; 10.9 -1; 26.9 - 1 (CRP); EAST KENT

(15): Dymchurch, 1.8 - 1 (JO); Greatstone, 16.8 - 1; 21.8 - 1; 22.8 - 1; 1.9 - 1; 18.9 - 1 (BB per SPC); Kingsgate, 27.8 - 1 (FS per TWH); Lydd, 26.8 - 1 (SPC); SURREY (17): Lingfield, 22.9 - male (JC); SOUTH ESSEX (18): Bradwell-on-Sea, 25.8 - male (AJD); HERTFORDSHIRE (20): Harpenden, 31.8 - 1 (A.M. Riley); OXFORDSHIRE (23): Fernham, 16.9; 26.9 (Nash 1993); BUCKINGHAMSHIRE (24): locality not given, 8.8 (Harman 1993); GLAMORGAN (41): Penpedairheol, 22.9 (ASH); PEMBROKESHIRE (45): Skokholm, 26.5 - 1; 27.5 - 1 (SP);ISLE OF MAN (71): Castletown, 18.9 - 1; 18.9 - 1 (separate individual to other record on this date); 19.9 - 1 (GDC); Scarlet, 20.9 - 1 drowned in cattle trough (GDC); CHANNEL ISLANDS (113): Guernsey, 24.8 - 1 on *Crithmum maritimum* flowers (RJH per Austin (1992)); St. Peter Port, Guernsey, 21.8 - 1 at rest on wall (RJH per Austin (1992)).

Summary: (1): 370+; (2): 8; (3): 28; (5): 3; (6): 1; (8): 1; (9): 57; (10): 3; (11): 4; (12): 2; (13): 3; (14): 3; (15): 8; (17): 1; (18): 1; (20): 1; (23): 2; (24): 1; (41): 1; (45): 2; (71): 4; (113): 2.

#### Toadflax Brocade Calophasia lunula (Hufnagel) [I?/V?]

SOUTH HAMPSHIRE (11): Southsea, 11.8 - 1 (JRL).

#### Red Sword-grass Xylena vetusta (Hübner) [I?/V?]

EAST KENT (15): Dymchurch, 20.4 - 1 (JO); SHETLAND ISLANDS (112): Eswick, 9 - 2 (Pennington 1993).

#### Sword-grass X. exsoleta (Linnaeus) [I?/V?]

NORTH LINCOLNSHIRE (54): Dalby House, 19.8 (B. Dawson per RJ); SHETLAND ISLANDS (112): Fair Isle, 23.4 - 1 (N. Riddiford).

#### Red-headed Chestnut Conistra erythrocephala (Denis & Schiffermüller) [I]

EAST KENT (15): nr. Whitstable, 19.3 - 1 female, ab. glabra (Platts 1993).

# Tree-lichen Beauty Cryphia algae (Fabricius) [I]

ISLE OF WIGHT (10): Freshwater, 27.8 - 1 (Knill-Jones 1993); WEST SUSSEX (13): Walberton, 8.8 - 1 (JTR per CRP).

# The Orache Trachea atriplicis (Linnaeus) [I]

CHANNEL ISLANDS (113): Forest, Guernsey, 7.7 - 1 (TNDP); Les Merriennes, Guernsey, 13.7 - 1 (GH, FH & DP per Austin (1992)).

# Dumeril's Rustic Luperina dumerilii (Duponchel) [I]

DORSET (9): Eypes Mouth, 31.8 - 1 male (Reid 1993).

# Small Mottled Willow Spodoptera exigua (Hübner) [I]

WEST CORNWALL (1): Coverack, The Lizard, 17.9 - 2 (DB); Tregarne, Cusgarne, 19.5 - 1 (AS); SOUTH DEVON (3): East Budleigh, 24.5 - 1 (RJH); DORSET (9): Durlston Country Park, 20.9 - 1 (RJHM); Portland, 19.5 - 1; 29.5 - 1 (MC); NORTH HAMPSHIRE (12): East Stratton, exact date not given, but from end of 7. More than one record (BI-J); EAST SUSSEX (14): Crowborough, 14.5 - 1; 15.5 - 1 (MJS per CRP); Icklesham, 5.7 - 1; 25.8 - 1 (IH per CRP); EAST KENT (15): Kingsgate, 21.8 - 1 (FS per TWH); SOUTH ESSEX (18): Bradwell-on-Sea, 19.9 - 1 (AJD); 8.8 - 1 (SD); CO. CLARE (H9): Lehinch, 29.5 - 1 (AK).

Summary: (1): 3; (3): 1; (9): 3; (12): 1+; (14): 4; (15): 1; (18): 2; (H9): 1.

#### Marbled Clover Heliothis viriplaca (Hufnagel) [1?/V?]

SOUTH WILTSHIRE (8): Dinton, 8.8 - 4 (SMP); SOUTH ESSEX (18): Bradwell-on-Sea, 6.8 - 1 (SD); HUNTINGDONSHIRE (31): Church Farm, Yelling, 30.7 - 1 (BD); NORTHAMPTONSHIRE (32): Bretton, Peterborough, 29.6 (P. Kirby per Waring (1994)).

# Scarce Bordered Straw H. armigera (Hübner) [I]

WEST CORNWALL (1): Coverack, The Lizard, 19.9 - 1 (DB); Kynance, The Lizard, 19.8 - 2 (AJ per DB); Lizard Point, 18.9 - 1 (DB); Marazion, 20.9 - 2; 25.9 - 1 (RD2); St. Agnes, Isles of Scilly, 8.8 - 2; 12.9; 17.9 - 2; 26.9 (JWH & MEH); The Lizard, 8.8 - 2 (AG); EAST CORNWALL (2): Carlyon Bay, St. Austell, 8.8 - 1 (WGK); Golant, nr. Fowey, 7.8 (IR<sup>2</sup> per DB); SOUTH DEVON (3): nr. East Prawle, 19.9 (Baker 1993); Plympton, 4.8 - 1 (RJH); SOUTH SOMERSET (5): Porlock, 18.8 - 1 (JR); Quantocks, 28.7 (EAFD per KB); Watchet, 30.9 (K. Leaver per KB); NORTH SOMERSET (6): Westonzoyland, 5.8 (D. Miller per KB); DORSET (9): Ashington, Wimborne, 31.8 - 1 (JF2); Church Ope Cove, Portland, 28.9 (ASH); Durlston, 2.10 - 1 male (JC); Durlston Country Park, 30.7 - 4; 8.8 - 5; 19.8 - 1 (PD); 20.8 - 5 (RCK); 28.9 - 1; 29.9 - 2 (RJHM); Gaunts Common, 19.8 - 3 (PD); Portland, 29.5 - 1; 1.8 - 1; 9.8 - 1; 15.8 - 1; 18.8 - 1; 20.8 - 1; 16.9 - 1; 2.10 - 1 (MC); 10.8 (RD); Portland, Freshwater Bay, 8.8 - 1 (JEC); St. Albans Head, 7.8 - 2; 20.9 - 1; 26.9 - 3; 27.9 - 2 (PD); Studland, 18.9 - 1 (DB); Swanage, Old Harry Rocks, 14.8 - 2 (SC2); West Bexington, 6.8 - 1 (RME, det. DO); SOUTH HAMPSHIRE (11): Chilling, Warsash, 7.8 - 1; 26.9 - 1 (PMP); Woolston, 23.9 - 1 (ARC); NORTH HAMPSHIRE (12): Bentley, 2.10 - 1 (ARC); East Stratton, 5.9 - 1; 28.9 - 1 (BI-J); SUSSEX: Brighton, 1.10 - 1, flying by day (AB per CRP); WEST SUSSEX (13): Pagham, recorded in late September - 1 (GAC per CRP); 29.9 (RMc); Pagham Harbour, 7.8 - 1 (PQW); Walberton, 3.8 - 1; 29.9 - 1 (JTR per CRP); EAST SUSSEX (14): Peacehaven, 27.7 - 1 (CRP); KENT: 18.10; 19.9 (Harman 1993); EAST KENT (15): Dungeness, 29.9 (TR); Greatstone, 3.9 - 1 (BB per SPC); 8.8 - 1 (SPC); Kingsgate, 16.8 - 1; 28.8 - 1 (FS per TWH); Littlestone, 22.9 - 1 (KR per SPC); New Romney, 25.9 - 1 (KR per SPC); SURREY (17): South Croydon, 28.9 (GAC); SOUTH ESSEX (18): Bradwell-on-Sea, 8.8 - 1; 18.8 - 1; 20.8 - 1; 21.8 - 1 (AJD); 3.8 - 1 female; 14.8 - 1; 19.8 - 1; 27. 8 - 1 (SD); NORTH ESSEX (19): Takeley, 18.8 (DJLA per BG<sup>2</sup>); BERKSHIRE (22): Burghfield Common, 6.8 - 1 (Young 1993); Longworth, Abingdon, 3.10 - 1 (AK); Uffington, 3.8 (Classey 1993); OXFORDSHIRE (23): Long Wittenham, Abingdon, 1.8 - 1, 5.8 - 1 (DO); HUNTINGDONSHIRE (31): Ramsey Heights Clay Pits, 18.9 - 1 (NM per BD); EAST GLOUCESTERSHIRE (33): Hilcott End. Ampney Crucis, 19.8 - 1 female; 21.9 - 1 (APF); WARWICKSHIRE (38): Charlecote, 29.5 - 1; 24.7 - 1; 7.8 - 1; 21.9 - 1 (AG); Coventry, 3.7 - 1 (A. Kolaj per DB); Pillerton Priors, 7.8 - 1 (C. Ivin per DB); Rugby, 29.8 - 1 (Dr D. Porter per DB); STAFFORDSHIRE (39): Rugeley, 27.9 (SC2); GLAMORGAN (41): Caswell Bay, The Gower, 7/8.8 (Scanes 1993); NORTH LINCOLNSHIRE (54): South Cockerington, 29.9 (J. Jaines per RJ): ISLE OF MAN (71): Castletown, 9.10 - 1 (GDC).

Summary: (1): 15; (2): 2; (3): 2; (5): 3; (6): 1; (9): 46; (11): 3; (12): 3; Sussex: 1; (13): 5; (14): 1; Kent: 2; (15): 7; (17): 1; (18): 8; (19): 1; (22): 3; (23): 2; (31): 1; (33): 2; (38): 7; (39): 1; (41): 1; (54): 1; (71): 1.

## Bordered Straw H. peltigera (Denis & Schiffermüller) [I]

WEST CORNWALL (1): Coverack, 18.9 - 1 (DB); Kynance, The Lizard, 19.8 - 3 (AJ per DB); Praa Sands, nr. Helston, 20.5 - 1; 21.5 - 1; 22.5 - 2 (RD<sup>2</sup>); St. Agnes. Isles of Scilly, 30.7; 8.8; 17.9 (JWH & MEH); EAST CORNWALL (2): St. Austell, 21.8 - 1 (R.

Jones per WGK); SOUTH DEVON (3): Branscombe, 25.5 - 1 (G. Martin); Starcross, 21.5 - 1 (AHD); SOUTH SOMERSET (5): Kingsbury Episcopi, 8.8 (RC per KB); Watchet, 6.6 (EAFD per KB); NORTH SOMERSET (6): Berrow, 23.7 (BES per KB); 25.7 (EAFD per KB); Shapwick Heath, date not given (EAFD per KB); locality not given, but grid ref. ST4160, 20.7 (M. Elvidge); DORSET (9): Ashington, Wimborne, 16.5 - 1 (JF<sup>2</sup>); Bournemouth, 23.7 (Dr S.E. Christmas); Corfe, 19.5 - 1 (DB<sup>2</sup> per RJHM); Durlston, 30.7 - 2; 8.8 - 2 (PD); Durlston Head, Swanage, 30.7 - 1 (GAC); 8.8 - 2 (DAY); Swanage (Durlston Country Park), 24.5 - 2; 25.5 - 1; 27.5 - 1; 31.5 - 2; 1.6 - 2; 22.7 - 1 (DB); 22.5 - 1; (recorder not given, per RJHM); 16.5 - 1; 22.5 - 1; 23.5 - 1; 28.5 - 3: 30.5 - 2: 8.6 - 2; 9.6 - 1; 9.7 - 5; 6.8 - 1; 18.9 - 7; 20.9 - 1 (RJHM); 25.5 - 1 (JC); Gaunts Common, 21.5 - 1 (PD); Portland, 12.6 - 1; 29.7 - 1; 31.7 - 1; 1.8 - 1; 7.8 - 1; 8.8 - 1;9.8 - 4; 11.8 - 1 (MC); 24.5 - 1; 30.5 - 1; 6.6 - 1 (RD2); 10.8 (RD); Portland, Freshwater Bay, 8.8 - 1 (JEC); Radipole School, Weymouth, 28.9 - 1 (NA); St. Albans Head, 15.5 - 1; 23.5 - 6; 27.5 - 5; 29.5 - 2; 7.8 - 1 (PD); West Bexington, 31.5 - 2; 30.7 -1; 6.8 - 1; 17.8 - 1 (RME); ISLE OF WIGHT (10): Chale Green, 23.5 - 1 (SC per SAKJ); Freshwater, 10.8 - 1 (SAKJ); Niton, 6.6 (AW per SAKJ); Ventnor, 18.5 (PHS per DHS); locality not given, 29.7 - 1 (ARC); SOUTH HAMPSHIRE (11): Chandlers Ford, 15.5 -1; 2.8 - 1 (BG); Chilling, Warsash, 30.7 - 1 (PMP); Southsea, 27.5 - 1; 7.8 - 1 (JRL); Totton, 20.7 - 1; 21.7 - 2; 23.7 - 1 (MJ); Woolston, 1.8 - 1; 21.9 - 1 (ARC); NORTH HAMPSHIRE (12): Bentley, 17.8 - 1 (ARC); WEST SUSSEX (13): Littlehampton, 7.8 -1 (Mrs R. Pratt per CRP); Pagham Harbour, 26.9 - 12 larvae; 27.9 - 20 larvae (per DB); Walberton, 20.5 - 1; 27.5 - 1; 1.8 - 1 (JTR per CRP); EAST SUSSEX (14): Crowborough, 25.5 - 1 (MJS per CRP); 29.9 (Simmons 1993); Hastings, 25.7 - 1 (HN per CRP); Icklesham, 27.5 - 1 (IH per CRP); Peacehaven, 20.5 - 1; 6.8 - 1 (CRP); Ringmer, 27.7 - 1 (AB per CRP); EAST KENT (15): Densole, 1.8 (TR); Dungeness, 25.7 - 1; 31.7 - 2; 1.8 - 1; 2.8 - 1; 5.8 - 1; 10.8 - 1; 16.8 - 2; 17.8 - 1; 20.8 - 2 (DW per SPC); 22.7 - 1; 31.7 - 1; 9.8 - 1; 21.8 - 1 (SPC); 29.7 - 1 (KR per SPC); Dymchurch, 25.5 - 1; 9.8 - 1; 10.8 - 1 (JO); Greatstone, 15.5 - 1 (BB per SPC); Kingsgate, 22.8 - 1 (FS per TWH); Lydd, 21.5 - 1; 1.7 - 1; 9.7 - 2; 1.8 - 2; 28.9 - 1 (KR per SPC); Newington, 23.7 (REL); The Warren, 31.7 (TR); SURREY (17): Nutfield, 2.8 (P.A. Cordell per RMc); SOUTH ESSEX (18): Bradwell-on-Sea, 1.8 -1; 6.8 - 1 (AJD); 3.8 - 1 male (DS); NORTH ESSEX (19): Jaywick, 1.8; 29.9 (J. Young per BG<sup>2</sup>); St. Osyth, 1.8 (RWA per BG2); OXFORDSHIRE (23): Long Wittenham, Abingdon, 31.5 - 1 (DO); EAST NORFOLK (27): Filby, 5.9 - daytime observation (K.G. Saul per DH); Winterton, 29.8 per DH); WEST NORFOLK (28): Rockland, 26.5 (PGC per DH); HUNTINGDONSHIRE (31): Brampton Wood, 7.8 - 1 (BD); St. Ives, 31.7 - 1 found feeding on Buddleia (J.N. Greaterex-Davies per BD); NORTHAMPTONSHIRE (32): Hazelborough Wood, Silverstone, 25.9 - 1 (DHH); Helpston, 23.5 (M. Hillier per Waring (1994)); Kettering, 29.8 - 1 at Buddleia (JW); Werrington, Peterborough, 29.7 -1 (Waring 1994); WARWICKSHIRE (38): Bearly, 28.5 - 1 (IR2 per DB); Bidford on Avon, 22.5 - 1; 26.5 - 2; 27.5 - 1 (RC<sup>2</sup> per DB); Charlecote, 28.5 - 1 (DB); PEMBROKESHIRE (45): Skokholm, 26.5 - 1; 27.5 - 2 (SP); NORTH LINCOLNSHIRE (54): Gibraltar Point, 26.7 (CH<sup>2</sup> & KW per RJ); Little Cawthorpe, 9.8 (G. Wright per RJ); SOUTH-EAST YORKSHIRE (61): Cottingham, 27.5 (PC per PQW); 29.9 - 1 (PC); Spurn, 24.7 - 1 feeding on sea holly (BS); WESTMORLAND (69): South Walney, 14.7 -1 (T. Dean per DWK); CUMBERLAND (70): St. Bees, 5 (M. Preece per DWK); ISLE OF MAN (71): Castletown, 24.5 - 1; 29.5 - 2; 8.8 - 1 (GDC); 18.9 - 1 (recorder not given, per GDC); CHANNEL ISLANDS (113): L'Ancresse, Guernsey, 31.5 - 1 (Austin 1992); Forest, Guernsey, 27.5 - 4; 8.6 - 1; 20.9 - 2 (TNDP); CO. KERRY: Ballahachigue, Listowel, 2.6 (J.N. Lavery); LIMERICK (H8): Limerick, 22.8 - 4 larvae on *Calendula* (DJW); CO. CLARE (H9): The Burren, Kilnaboy, 19.8 - 3 larvae on *Calendula* (DJW); Lehinch, 29.5 - 1 (AK); SOUTH-EAST GALWAY (H15): Leigh South, 1.6 "a few"; 5.6 - 2 (BE & BFS, see also Elliott & Skinner 1993).

Summary: (1): 8; (2): 1; (3): 2; (5): 2; (6): 4; (9): 84; (10): 5; (11): 11; (12): 1; (13): 4 (+ 32 larvae); (14): 7; (15): 32; (17):1; (18): 3; (19): 3; (23): 1; (27): 2; (28): 1; (31): 2; (32): 4; (38): 6; (45): 3; (54): 2; (61): 3; (69): 1; (70): 1; (71): 5; (113): 8; Co. Kerry: 1; (H8): 4 larvae; (H9): 1 (+ 3 larvae); (H15): 4+.

#### Eastern Bordered Straw H. nubigera (Herrich-Schäffer) [I]

DORSET (9): Swanage (Durlston Country Park), 14.5 (Skinner 1993).

#### Purple Marbled Eublemma ostrina (Hübner) [I]

CORNWALL: Brae Hill, Rock, 8.7 - 6 larvae recorded on Carlina vulgaris (Hoare 1993); WEST CORNWALL (1): Praa Sands, nr. Helston, 22.5 - 1 (RD<sup>2</sup>); Kynance, The Lizard, 19.8 - 1 (DB); The Lizard, 9.8 - 1; (AG); SOUTH SOMERSET (5); Kingsbury Episcopi, 23.5 (RC per KB); Porlock, 23.5 (JR); DORSET (9); Corfe, 21.5 - 1 (DB<sup>2</sup> per RJHM); Durlston Country Park, 26.5 - 1 (JC); Portland, 20.5 - 1; 21.5 - 1; 9.8 - 1; 19.8 -1; 23.9 - 1 (MC); St. Albans Head, 27.5 - 2 (PD per BFS); Swanage, 14.5 - 3 (BFS); Swanage, 25.5 - 1 (DB); ISLE OF WIGHT (10): Chale Green, 20.5 - 3 (SC per SAKJ. given as 21.5 in Colenutt (1993)); Freshwater, 26.8 - 1 f. carthami (SAKJ); SOUTH HAMPSHIRE (11); Chilling, Warsash, 15.5 - 1 (PMP); Bishop's Waltham, 8.8 - 1 (Dr J. Fisher per BFS, see also Hipperson (1993)): WEST SUSSEX (13): Walberton, 14.5 - 1 typical form (JTR per CRP): EAST SUSSEX (14): Ringmer, 23.7 - 1 (AB per CRP): EAST KENT (15): Ashford, no date given (Clancy 1993); Dungeness, 21.5 - 1 (SPC) Greatstone, 10.8 - 1 f. carthami (BB per SPC); NORTH ESSEX (19): Takeley, 25.8 (Agassiz 1993); OXFORDSHIRE (23): Fernham, 21.8 - 1 (SN per BFS); PEMBROKESHIRE (45): Skokholm, 26.5 - 1; 27.5 - 1 (SP); WESTMORLAND (69): Elterwater, 12.9 - 1 (J. Whittle per DWK); SOUTH KERRY (H1): Castle Gregory 5.5 (M. Daly per KGMB); CO. CLARE (H9): The Burren, 14.8; 15.8, larvae/pupae found; 17.8, larvae/pupae found. A total of 17 bred (Elliott & Skinner 1993); 19.8 (BFS); The Burren, 20.8 - 1 (DJW); SOUTH-EAST GALWAY (H15): Inisheer, Aran Islands, 19.8, evidence of ostrina found by BFS and J. Skinner, 3 bred out. (Elliott & Skinner 1993); CO. CLARE (H9): Flaggy Shore, .8 - 1 larvae (DJW).

Summary: Cornwall: 6 larvae; (1): 3; (5): 2; (9): 13; (10): 4; (11): 2; (13): 1; (14): 1; (15): 3; (19): 1; (23): 1; (45): 2; (69): 1; (H1): 1; (H9): 1 and several larvae; Co. Galway: larvae; (H9): 1 larva.

#### Small Marbled E. parva (Hübner) [I]

DORSET (9): St. Albans Head, 27.5 - 2 (PD).

#### Silver Barred Deltote bankiana (Fabricius) [I?V?]

SOUTH ESSEX (18): Bradwell-on-Sea, 6.6 - 1 (SD); NORTH ESSEX (19): Harwich, 12.6 (P. Smith per BG<sup>2</sup>).

#### Golden Twin-spot Chrysodeixis chalcites (Esper) [I]

WEST CORNWALL (1): Lizard Point, 18.9 - 1 (AG); NORTH ESSEX (19): Thorpe-le Soken, 19.9 - 1 (T. Gosling per DB); EAST NORFOLK (27): Hemsby, 23.9 (K.J. Brett per DH); Overstrand, nr. Cromer, 28.9 - 1; 2.10 - 1 (RC<sup>2</sup> per DB); Winterton, 27.9 - 2 (PC<sup>2</sup> per DH); SOUTH-EAST YORKSHIRE (61): Spurn, 20.9 - 1 (BS).

# Scar Bank Gem Ctenoplusia limbirena (Guenée) [I]

DORSET (9): Durlston Country Park, 17.9 (Kolaj 1993).

#### The Ni Moth Trichoplusia ni (Hübner) [I]

WEST CORNWALL (1): Marazion, 20.9 - 1 (RD2); Coverack, The Lizard, 17.9 - 2 (AG & DB); 18.9 - 3 (DB); 8.8 - 2 (AG); SOUTH DEVON (3): Colyton, 12.9 - 1 found on a wall (per BFS); Plympton, 25.7 - 1; 29.7 - 1; 1.8 - 1 (RJH); NORTH SOMERSET (6); Berrow, 22.7 (BES per KB); DORSET (9): Durlston, 30.7 - 2; 8.8 - 1 (PD); Durlston Country Park, 24.7 (recorder not given, per RJHM); Gaunts Common, 26.7 - 1; 30.7 - 1; 18.9 - 1 (PD); Portland, 10.8 - 1 (RD): 11.7 - 1: 15.7 - 1: 27.7 - 1: 31.7 - 1: 6.8 - 1: 18.8 - 1: 20.8 - 1 (MC): 8.8 - 1 (JRL & RJH): Portland, Freshwater Bay, 8.8 - 2 (JEC); St. Albans Head (= St. Albhelm's Head), 7.8 - 2 (PD & Davey 1993); Swanage, 22.7 - 1 (per DB); West Bexington, 6.8 -1 (RME det. DO); SOUTH HAMPSHIRE (11): Brockenhurst, 17.9 - 1 (JEC); Chandlers Ford, 8.8 - 1 (BG); Southsea, 21.7 - 1 (JRL); Totton, 25.7 - 1 (MJ); Wincester, 28.7 - 1; 31.7 - 1 (Sterling et al 1993); Woolston, 26.7 - 1 (ARC); NORTH HAMPSHIRE (12): Bentley, 7.8 - 1 (ARC); EAST SUSSEX (14): Normans Bay, 23.7 - 1 (MJS per CRP); SURREY (17); South Croydon, 19.7 - 1 (GAC); SOUTH ESSEX (18); Bradwell-on-Sea, 21.7 - 1 female, 22.7 -1 female; 30.7 - 1 male; 4.8 - 1 female; 8.8 - 1 male (AJD); 28.7 - 1 male; 30.7 - 1 male (SD); BERKSHIRE (22): Wash Common, 30.7 -1 male; 6.8 - 1 (N. Cleere, see Baker (1994)); OXFORDSHIRE (23): Fernham, 19.8 - 1 (SN per BFS); WEST NORFOLK (28): Hockwold, 29.7 - 1 (JF); HUNTINGDONSHIRE (31): Ramsey Heights, 25.7; 28.8 (NM per BD); NORTHAMPTONSHIRE (32): Kettering, 2.8 - 1, to actinic (JW); WARWICKSHIRE (38): Pillerton Priors, 2.8 - 1 (C. Ivin per DB); GLAMORGAN (41): Caswell Bay, The Gower, 7.8; 8.8 (Scanes 1993); Penpedairheol, 31.7 - 1 (ASH); CO. CLARE (H9): The Burren, Mullaghmore, 8. - larval record (2 larvae found, 1 died). On Hieracium (Elliott & Skinner 1993); SOUTH-EAST GALWAY (H15): Leigh South, 1.6 - 1 (BE & BFS, see also Elliott & Skinner 1993). Summary: (1): 8; (3): 4; (6): 1; (9): 22; (11): 7; (12): 1; (14): 1; (17): 1; (18): 7; (22): 2; (23); 1; (28): 1; (31): 2; (32): 1; (38): 1; (41): 3; (H9): at least 1 larva; (H15): 1.

#### Dewick's Plusia Macdunnoughia confusa (Stephens) [I]

DORSET (9): Gaunts Common, 28.8 - 1 (PD); EAST KENT (15): Ashford, 31.8 - 1 male (J. Chandler per SPC); SURREY (17): Buckland, 20.8 (CH per BFS); WEST GLOUCESTERSHIRE (34): Slimbridge, 18.9 (NW per RG); CHANNEL ISLANDS (113): Forest, Guernsey, 13.9 - 1 (TNDP).

#### Gold Spangle Autographa bractea (Denis & Schiffermüller) [I?V?]

Note: Records outside known resident range only.

BUCKINGHAMSHIRE (24): Marlow, 3.8 (DJW).

#### Lunar Double-stripe Minucia lunaris (Denis & Schiffermüller) [I]

DORSET (9): Swanage, 21.5 - 1; 24.5 - 1 (DB); EAST SUSSEX (14): Hastings, 24.5 - 1 to sugar (NH per CRP); SOUTH ESSEX (18): Bradwell-on-Sea, 28.5 - 1 male (AJD); WEST NORFOLK (28): East Winch Common, 30.5 - 1 (DH).

#### ANNEXE 2: SELECTED RECORDS OF "COMMONER" SPECIES

This annexe gives a very brief summary of the abundance over the year as well as the earliest and latest date for the more frequent immigrant species which are not covered in Annexe 1. Other significant records or observations for 1992 which have been received and were not covered in Annexe 1, such as large numbers of an individual species or unusual records of resident species which may be the result of migrant activity, are also given.

#### **YPONOMEUTIDAE**

#### Plutella xvlostella (Linnaeus)

Earliest date: SOUTH DEVON (3): Starcross - 1 (AHD); Dorset (9): Gaunts Common -

1 (PD); SOUTH HAMPSHIRE (11): Sparsholt - 1 (AHD), all on 13.5.

Latest date: DORSET (9): Durlston, 5.11 - 2 (PD).

Other significant records: DORSET (9): St. Albans Head, 19.5 - c.40; 31.5 - 40 (PD).

#### **PYRALIDAE**

#### Udea ferrugalis (Hübner)

Earliest date: DORSET (9): Tregame, Cusgame, 12.5 (AS). Latest date: ISLE OF WIGHT (10): Freshwater, 30.11 (SAKJ).

Other significant records: WEST CORNWALL (1): Coverack, The Lizard, 17.9 - 50; 18.9 - 30 (DB); Kynance, The Lizard, 19.8 - 50+ (DB); DORSET (9): Portland, 21.7 - 24 (MC).

#### Nomophila noctuella (Denis & Schiffermüller)

Earliest date: DORSET (9): Portland, 17.3 - 1 (MC).

Latest date: SURREY (17): Leigh, 4.11 - 2 (R. Fairclough).

Other significant records: WEST CORNWALL (1): Coverack, The Lizard, 17.9 - 200+; 18.9 - 100+ (DB); Kynance, The Lizard, 19.8 - 100+ (DB); DORSET (9): Durlston Country Park, 14.5 - 15 (RJHM); Portland, 18.8 - 107 (MC); ISLE OF WIGHT (10): St. Lawrence, 16.9 - 20 (JC).

#### PIERIDAE

#### Large White Pieris brassicae (Linnaeus)

Possible significant records only: DORSET (9): Portland, strong northward movement in off the sea on 14.5 & 15.5 (MC); WEST SUSSEX (13): Pagham Harbour, 7.8 - 1 at m.v. light (POW); EAST SUSSEX (14): Peacehaven, 20.7 - 2, both caught in m.v. light trap (CRP); EAST KENT (15): Sandwich Bay Bird Observatory, 15.7 - "many thousands" seen flying in off the sea; 16.7 - "no sign of diminution . . . spot counts . . . 362 insects per minute"; 7 - "movement continued . . . for the next ten days" (Mendel 1995); WEST KENT (16): near Orpington, 18.7 - c.500 seen in a field moving due east (PAS); SURREY (17): Hooley, 19.7 - c.100 seen in a field (PAS); NORTH ESSEX (19): Hamford Water, Little Oakley, 18.7 - "huge and extraordinary numbers" (Mrs E.M. Parsons per Mendel (1995)); EAST SUFFOLK (25): Dunwich, 18.7 - "hundreds . . . coming in off the sea" (JPB per Mendel (1995)); Languard Bird Observatory, 7 -"probably thousands"; Martlesham Heath, 7 - "large bed of lavender . . . covered with them" (Mendel 1995); half mile past Sunk Light Vessel, 14.7 - "huge swarm" heading towards east coast of Britain (Mrs J.M. Hannaford per Mendel (1995)); SOUTH-EAST YORKSHIRE (61): Spurn - huge influx on 24.7 when thousands were present, largely gone by 29.7 (BS).

#### Small White *P. rapae* (Linnaeus)

Possibly significant records only: NORTH ESSEX (19): Dovercourt, 24.5 - moderate numbers flying in from the sea (BG<sup>2</sup>); SOUTH-EAST YORKSHIRE (61): Spurn - huge influx when thousands were present, largely gone by 29.7 (BS).

#### NYMPHALIDAE

#### Red Admiral Vanessa atalanta (Linnaeus)

Earliest date: CHANNEL ISLANDS (113): Guernsey, 1.2 (Austin 1992).

Latest date: DORSET (9): Portland (MC) & SOUTH-EAST YORKSHIRE (61): Spurn - 2 (BS), all on 8.11.

Other significant records: SOUTH ESSEX (18): Bradwell-on-Sea, 14.5 - 20; 18.5 - 21 (AJD); KINTYRE (101): Otter Ferry, 9.8 c.150 along c.1<sup>1</sup>/-miles of shoreline (per DD); ORKNEY ISLANDS (111): Orphir, 6.6 - "major arrival" (RIL); SHETLAND ISLANDS (112): 10 - an "exceptional influx" between 1st and 5th October (per MGP). There were also records of *atalanta* being recorded at light traps from WEST CORNWALL (1) (AG & AS); DORSET (9) (DB, JEC & JC); ISLE OF WIGHT (10) (JC); SOUTH HAMPSHIRE (11) (JEC); EAST SUSSEX (14) (CRP); and HERTFORDSHIRE (20) (Townsend.1993).

#### Painted Lady Cynthia cardui (Linnaeus)

Earliest date: DORSET (9): Bournemouth, 1, exact date not given (Bowles 1992b).

Latest date: DORSET (9): Portland 26.10 - 1 (MC).

Other significant records: HERTFORDSHIRE (20): Harpenden, 8.7 - 1, at light (Townsend 1993).

#### NOCTUIDAE

#### Dark Sword-grass Agrotis ipsilon (Hufnagel)

Earliest date: OXFORDSHIRE (23): Long Wittenham, Abingdon, 3.3 - 1 (DO).

Latest date: SOUTH HAMPSHIRE (11): Chilling, Warsash, 21.11 - 1 (PMP).

Other significant records: WEST CORNWALL (1): Coverack, The Lizard, 17.9 - 30; 18.9 - 50 (DB); Kynance, The Lizard, 19.8 - 100+ (DB); DORSET (9): St. Albans Head, 7.8 - c.150 (PD); Durlston Country Park, 20.8 - 50+ (RCK); Portland, 18.8 - 14 (MC); ISLE OF WIGHT (10): St. Lawrence, 16.9 - 25 (JC).

#### Large Yellow Underwing Noctua pronuba (Linnaeus)

Possibly significant records only: DORSET (9): Durlston, 30.7 - c.2000 (PD); St. Albans Head, 7.8 - c.1500 (PD).

#### Pearly Underwing Peridroma saucia (Hübner)

Earliest date: ISLE OF WIGHT (10): Chale Green, 7.5 - 1 (SC per SAKJ).

Latest date: DORSET (9): Corfe, 25.11 - 2 (DB<sup>2</sup> per RJHM).

Other significant records: WEST CORNWALL (1): Coverack, The Lizard, 17.9 - 50; 18.9 - 50 (DB); Kynance, The Lizard, 19.8 - 100+ (DB); DORSET (9): St. Albans Head, 7.8 - c.100 (PD); Durlston Country Park, 20.8 - 100+; 17.9 - 35 (RCK); Portland, 21.8 - 21 (MC); West Bexington, 17.9 - 31; 26.9 - 32; 27.9 - 62 (RME); ISLE OF WIGHT (10): St. Lawrence, 16.9 - 25 (JC); ISLE OF MAN (71): Castletown, 28.9 - 26 (GDC); ORKNEY ISLANDS (111): Orphir, 22.5 - 1 (JIL).

#### Angle Shades Phlogophora meticulosa (Linnaeus)

Possibly significant records only: SOUTH-EAST YORKSHIRE (61): Muston, nr. Filey, 26.9 - 114; 28.9 - 364 (PQW).

#### Silver Y Autographa gamma (Linnaeus)

Earliest date: SOUTH ESSEX (18): Bradwell-on-Sea, 5.1 - 1 (AJD).

Latest date: BERKSHIRE (22): Longworth, Abingdon, 26.11 (AK).

Selected significant records only: WEST CORNWALL (1): Kynance, The Lizard, 19.8 - 300+ (DB); DORSET (9): Durlston, 30.7 - c.200 (PD); Portland, 31.7 - 66; 7.8 - 36; 20.8 - 30 (MC); St. Albans Head, 7.8 - c.70 (PD); Swanage, 22.7 - 80 (DB); ISLE OF WIGHT (10): St. Lawrence, 16.9 - 30 (JC); SOUTH HAMPSHIRE (11): Chilling, Warsash, 22.7 - 33; 30.7 - 35 (PMP); EAST SUSSEX (14): Peacehaven, 19.7 - 70 (CRP); SOUTH ESSEX (18): Bradwell-on-Sea, 6.6 - 48; 12.7 - 47; 15.7 - 31; 16.7 - 30; 17.7 - 35; 21.7 -

57; 22.7 - 101; 23.7 - 115; 24.7 - 319; 25.7 - 203; 27.7 - 119; 8.8 - 28; 17.9 - 25; 27.9 - 34; 28.9 - 48; 29.7 - 37 (AJD); 23.7 - 27 (SD); NORTHAMPTONSHIRE (32): Werrington, 26.7 - 32 (Waring 1992); NORTH LINCOLNSHIRE (54): Gibraltar Point, c.8000 (in 8 light traps) (BD); SOUTH-EAST YORKSHIRE (61): Cottingham, 28.9 - 55 (PC); Spurn, 23.7 - hundreds by day; 24.7 - thousands by day (BS); 25.7 - 900 counted on sea holly in 18 minutes (PC); ISLE OF MAN (71): Castletown, 28.9 - 36 (GDC); KIRKCUDBRIGHTSHIRE (73): Auchenfad Forest (M.N. Rankin per Hancock (1994)); CHANNEL ISLANDS (113): Forest, Guernsey, 17.8 - 500+; 18.8 - 500+; 19.8 - 500+ (TNDP).

#### Initials of recorders

The recorders initials are listed alphabetically so that records can be extracted with relative ease.

AB	A. Batten	DAY	D.A. Young	NM	Mrs N. Mason
AFS	A.F. Silcocks	EAFD	E.A.F. Dean	NRD	N.R. Davies
AG	A. Gardiner	FH ·	F. Higgs	PAS	P.A. Sokoloff
AHD	A.H. Dobson	FS	F. Solly	PC	P. Crowther
AJ	A. Jenkins	GAC	G.A. Collins	$PC^2$	P. Cawley
AJD	A.J. Dewick	GAP	G.A. Pyman	PD	P. Davey
AK	A. Kennard	GDC	G.D. Crane	PGC	P.G. Cardy
AME	Lt. Col. A.M. Emmet	GH	G. Higgs	PHS	Dr P.H. Sterling
APF	A.P. Foster	GRE	G.R. Else	PMP	P.M. Potts
ARC	A.R. Collins	IH	I. Hunter	PQW	P.Q. Winter
ASH	A.S. Henderson	IR	I. Rippey	RAA	R.A. Austin
AS	A. Spalding	$\mathbb{R}^{2}$	I. Reid	RC	R. Clatworthy
AW	Mrs A. Wilkinson	JВ	J. Bradley	$RC^2$	R. Cox
BB	B. Banson	JC	Dr J. Clarke	RCK	R.C. Kendrick
BD	B. Dickerson	JEC	J.E. Chainey	RD	R. Dyke
BE	B. Elliott	JF	J. Fenn	$RD^2$	R. Darlow
BES	B.E. Slade	$JF^2$	J. Fradgley	RE .	R. Ely
BFS	B.F. Skinner	JO	J. Owen	REL	R.E. Lane
BG	B. Goater	JPB	J.P. Bowdrey	RET	R.E. Turley
$BG^2$	B. Goodey	JR.	J. Robbins	RIL	R.I. Lorimer
BI-J	B. Ivor-Jones	JRL	J.R. Langmaid	RJ	R, Johnson
BPH	Dr B.P. Henwood	JTR	J.T. Radford	RJH	R.J. Heckford
BS	B. Spence	JW	J. Ward	RJHM	R.J.H. Murray
CH	C. Hart	JWH	J.W. Hale	RL	R. Leverton
$CH^2$	C. Hawke	KB	K. Brown	RMc	R. McCormick
CRP	C.R. Pratt	KC	K. Cooper	RME	R.M. Eden
DB	D. Brown	KGMB	K.G.M. Bond	RWA	R.W. Arthur
$DB^2$	D. Burt	KR	K. Redshaw	SAKJ	S.A. Knill-Jones
DD	D. Dey	KW	K. Wilson	SC	S. Colenutt
DH	D. Hipperson	LR	L. Rogers	$SC^2$	S. Cooper
$DH^2$	D. Harvey	MC	M. Cade	SD	S. Dewick
DHH	D.H. Howton	MEH	M.E. Hicks	SMP	S.M. Palmer
DHS	Col. D.H. Sterling	MGP	M.G. Pennington	SN	S. Nash
DJLА	D.J.L. Agassiz	MJ	M. Jeffes	SP	S. Price
DJW	D.J. Wedd	MJS	M.J. Simmons	SPC	S.P. Clancy
DO	Dr D. Owen	MRY	Dr M.R. Young	TNDP	T.N.D. Peet
DP	D. Pool	MSP	M.S. Parsons	TR	T. Rouse
DW	D. Walker	NA	N. Arnold	TWH.	T.W. Harman
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# Acknowledgements

We would like to thank all of the above-mentioned recorders and contributors. It is possible that we have unwittingly failed to acknowledge some contributors; if this is the case we would like to take this opportunity to apologise for this oversight.

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# THE MYRMECOPHILOUS LARVAE OF CHRYSOTOXUM ARCUATUM, PIPIZELLA VARIPES AND XANTHOGRAMMA PEDISSEQUUM FROM EUROPE AND PLATYCHEIRUS MILLERI FROM NEW ZEALAND (DIP.: SYRPHIDAE)

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THE BEST KNOWN myrmecophilous ("ant-loving") syrphids are species of *Microdon* Meigen. *Microdon*, however, is not the only syrphid taxon that is myrmecophilous. In Germany, Hölldobler (1929) found *Xanthogramma citrofasciatum* (Degeer) larvae in *Lasius* Fabricius ant nests and records an observation of a worker ant apparently feeding a larva. Pontin (1959) regularly found *Xanthogramma pedissequum* (Harris) in nests of *Lasius niger* L. and, on one occasion, in a nest of *Lasius flavus* (F.) and stated that the larva may feed on underground aphids, a suggestion made earlier by Brauer according to Lundbeck (1916).

Pontin (1959) also records the larva of another syrphid species, *Pipizella varipes* Meigen, feeding on ant-attended root aphids. Dixon (1959) records *P. varipes* larvae on colonies of the root aphid, *Anuraphis subterranea* (Walker). These colonies were tended by *L. niger* workers which built collars of earth round the base of infested plants. According to Stubbs and Falk (1983) all three British *Pipizella* Rondani species are associated with root aphids.

Another reputedly myrmecophilous syrphid taxon is *Chrysotoxum* Meigen. Dixon (1960) found a larva of *Chrysotoxum verralli* Collin in a nest of the ant, *L. niger* and Speight (1976) collected a larva of *Chrysotoxum festivum* (L.) from the same ant species. However, as Speight (1976) states, the feeding habits of *Chrysotoxum* larvae remain obscure. Finally, from New Zealand, Thompson (1972) records *Platycheirus milleri* Thompson in nests of the ant *Huberia striata* Smith and, from Australia, Hölldobler and Wilson (1990) record the larva of an undescribed species of *Trichopsomyia* Williston in weaver ant nests, *Polyrhachis* Smith.

In this paper we describe the third stage larvae of *Chrysotoxum arcuatum* (L.), *P. varipes*, *P. milleri* and *X. pedissequum* and give observations of feeding behaviour in larvae of *C. arcuatum* and *X. pedissequum*.

# Descriptions of third (= final) stage larvae

Morphological terms follow Dixon (1960) and Rotheray (1993).

# Chrysotoxum arcuatum (L.)

Overall appearance. A pale transluscent larva with internal mouthparts (Roberts, 1970); tip of the anal segment with two pairs of fleshy bulges, each bulge bearing a pair of setae, one mounted above the other (Fig. 1).

Diagnosis. Length 10-11mm; width 2-3mm; height 2-3mm; subcyclindrical in cross-section; truncate posteriorly, tapering anteriorly; outline interrupted by rounded projections bearing segmental sensilla and accompanying seta: abdominal segments with setae accompanying sensilla groups 1-7 long and conspicuous, about 0.2mm long; sensilla 8-11 on the ventral surface lacking setae; body cream-coloured except for white fat bodies which overlie the hind gut, in actively feeding individuals the hind gut contains black material: entire body coated in nodules except for prothorax and most of mesothorax which are smooth; mouthparts internal (Roberts 1970); ventral sensilla of metathorax mounted on short basal papillae, about 0.33 length of dorsal papillae; anal segment with two pairs of bulges each bearing two sensilla mounted on papillae with one terminal seta (Fig. 1); posterior respiratory process (prp) (Fig. 2): length 0.5mm; width at base and tip 0.4mm; dark brown with a mid-point constriction; nodulate and ridged below constriction, smooth above; dorsal spurs present; spiracular openings mounted on slight carinae and extending over the margin of the spiracular plate (Fig. 3).

*Material examined.* One larva collected by Boyd Barr, 20 September 1993 from a *Formica lemoni* Bondroit nest at the edge of a forestry track leading to Loch Frisa, near Alt Chrioman, Isle of Mull, Scotland.

Feeding behaviour. Following collection the larva was placed in a 50 x 30cm perspex box and aphids (probably Dactynotus jaceae (L.)) on a stem of Centaurea jaceae (L.) and larvae and pupae of L. niger and F. lemoni were provided. No evidence of predation was obtained. However, on a return visit to the ant nest, Geoica sp. aphids were found on a Arrhenatherum elatius (L.) Presl. and these were added to the box. The C. arcuatum larva readily caught and ate these aphids. Subsequently we observed the same larva feeding on Forda sp. aphids on roots of Dactylis glomerata L. freshly collected from the field but not from an ant nest. Eventually the larva evacuated the hind gut and feeding ended and it was preserved. In comparison with other syrphid predators, the larva was slow in its movements and took up to 45 minutes to feed on a single individual. It was most active at night and avoided the light.

# Pipizella varipes Meigen

Overall appearance: A dorso-ventrally flattened larva with a pair of slight projections at the tip of the anal segment and coated in conspicuous nodules.

Diagnosis: Length 6-7mm; width 2-3mm; height 0.8-1.2mm; dorso-ventrally flattened in cross-section; truncate posteriorly; tapering anteriorly; body pale brown; integument coated in upright nodules, nodules largest on the lateral margins and smallest on ventral surface; setae accompanying segmental sensilla club-shaped; surface of prothorax with prominent setae accompanying sensilla; each abdominal segment with dorsal transverse fold

bearing sensilla 2 divided in middle; tip of anal segment with a pair of slight projections at the base of which, on a transverse fold on the ventral surface are a pair of sensilla; prp (Fig. 4): length 0.6mm; width; 0.3mm; nodulate with three pairs of spiracular openings (Fig. 5).

Material examined: Twenty-one larvae in August from Anuraphis subterranea aphid on roots of Pastinaca sativa L. (Umbelliferacae), Silwood Park, Berkshire (Dixon, 1960); one larva collected by Boyd Barr on 25 February 1984 from a Lasius ant nest, near Loch Frisa, Isle of Mull, Scotland.

## Platycheirus milleri Thompson

Overall appearance: An arch-shaped larva in cross-section with a marginal band of broad projections (Fig. 6); these projections and the dorsal surface of the larva coated in tufts of setae borne on basal papillae (Fig. 7).

Diagnosis: Length: 8-10mm; width 4mm; height 3-4mm; body arch-shaped in cross-section which, by comparison with other *Platycheirus* larvae, is formed by extensions of the dorso-lateral margins of abdominal segments between sensilla pair one and four with the additional result that sensilla pairs 4-6 are aligned between and within abdominal segments forming a marginal band and sensilla pairs 7-8 are hidden behind the band (Fig. 8); the mid-dorsal region incorporating sensilla pair one, forming a slight ridge along the abdomen from segments 1-7; sensilla one and 4-6 mounted on projections about 0.30-0.40mm long and 0.22-0.28mm wide (Fig. 9); these projections and the whole of the dorsal surface coated in papillae bearing tufts of setae, those on the mid-dorsal ridge longer, about 0.05mm long; prp (Fig. 10): length 0.24mm, width at base 0.5mm smooth at tip with basal constriction and three pairs of spiracular openings (Fig. 11); four pairs of long (longer than length of spiracular openings) branched interspiracular setae (Thompson, 1972) (these setae missing in the material examined here).

*Material examined:* One larva, two puparia collected by J.I. Townsend and A.K. Walker on 18 October 1962 in nest of *Huberia striata* ants (Formicidae), Takaka Hill, Canaan, New Zealand.

# Xanthogramma pedissequum (Harris)

Overall appearance: A pale translucent larva; round in cross-section and a very narrow thorax (Fig. 12); a rounded prp with wavy spiracular openings.

*Diagnosis:* Length 8-9mm; width 4-5mm; height 4mm; round in cross-section and rounded posteriorly; larva somewhat pear-shaped with a more inflated posterior end; thorax very tapered, less than 0.33 as wide as abdomen, prothorax about 0.5mm wide; outline smooth with no projections; dorsal and lateral margins of all segments except mesothorax and prothorax

with a series of transverse grooves about 0.33mm apart, metathorax and first abdominal segment with three, abdominal segments 2-7 with four and the anal segment which, dorsally has only one transverse groove; body cream coloured except for white fat bodies which overlie the hind gut, in actively feeding individuals the hind gut contains black material; body surface between grooves smooth but outline of nodules visible on the integument, except for prothorax and most of mesothorax which are without this pattern; internal mouthparts (Roberts, 1970); segmental sensilla on short, inconspicuous basal papillae, each with a short accompanying seta (basal papilla + seta = 0.15mm); prp: length 0.6mm; width 0.3mm; rounded in profile with three pairs of wavy spiracular openings; base of prp with ridges.

*Material examined:* One larva collected by Steve Hewitt on 28 August 1994 from a *Lasius* ant nest in a garden in Penrith, Cumbria.

Feeding behaviour: On 8 July 1994 an adult female X. pedissequum was seen investigating a cultivated Primula in a garden. The fly walked to the centre of the plant and appeared to be looking for oviposition sites, although actual oviposition was not seen. On 28 August 1994, underneath a stone, about 15cm from the Primula plant, a larva was found in a L. niger ant tunnel. Also found were several root aphids which were placed in with the larva. Two aphids were separately grasped by the larva and consumed. By the next morning all the remaining five aphids had been eaten. Later the same larva was observed feeding several times on Forda sp. aphids on roots of Dactylis glomerata L. freshly collected from the field but not from an ant nest. Eventually the larva evacuated the hind gut and feeding ended and it was preserved. Like the larva of C. arcuatum, the larva was slow in its movements and feeding behaviour. It was also most active at night and avoided the light.

#### Discussion

Chrysotoxum larvae can be readily distinguished from other syrphid larvae by the possession of two pairs of rounded bulges at the tip of the anal segment, each bulge bearing two setae mounted one above the other (Fig. 1). The only previous descriptions of Chrysotoxum larvae are C. bicinctum (Beling, 1882), details of which were quoted by Lundbeck (1916) and C. verralli (Dixon, 1960). Speight (1976) gives brief details of the larva and puparium of C. festivum and describes characters of the prp which separate it from C. verralli. Having examined Dixon's (1960) specimen of C. verralli and Hartley's specimen of C. bicinctum (reared on pea aphids, Rotheray and Gilbert (1989)) specific differences remain tentative until more material becomes available.

*Pipizella* larvae can be easily distinguished from other syrphid larvae by the possession of a pair of rounded projections at the tip of the anal segment, dorso-ventral flattening and club-tipped segmental setae. Apart from a few

details given by Heeger (1858) the only description of *P. varipes* is Dixon (1960). Few other *Pipizella* larvae have been reared so it is not possible to give specific characters that separate them. The larva of *P. milleri* can be distinguished from other known *Plactycheirus* larvae by the arch-shape in cross-section and the possession of a marginal band of projections (Figs. 6 & 8). Thompson (1972) describes and figures the puparium of *P. milleri*.

Xanthogramma larvae are readily distinguished from other syrphid larvae by the very narrow thorax in relation to the abdomen, the series of transverse grooves (Fig. 12) and the rounded prp which lacks a medial division and has wavy spiracular openings (Rotheray 1993). Differences in the manner in which the spiracular openings are wavy separates the two British species, X. pedissequum and X. festivum (L.) (Speight, 1990). Apart from a few details given by Beling (1882), Dixon (1960) provides a generalised description of X. pedissequum.

Despite the long period that *Microdon* larvae have been recognised, their feeding habits have remained obscure. Early suggestions (Wheeler, 1908; Donisthorpe, 1927) that larvae feed on pellets ejected from the hypopharyngeal pockets of worker ants have not been confirmed. Recent authors have, however, observed *Microdon* larvae eating ant larvae and pupae (van Pelt and van Pelt, 1972; Duffield, 1981; Garnett *et. al.*, 1984; Barr, 1994) and it is probable that predation of ant broods is the typical feeding mode.

The feeding habits of both *Chrysotoxum* and *Xanthogramma* larvae have also been uncertain. Hölldobler (1929) apparently observed a worker ant feeding a larva of *X. citrofasciatum* (= *festivum*) and J.C. Hartley reared a *C. bicinctum* larva on pea aphids (Rotheray and Gilbert, 1989). However, our observations suggest that both taxa are probably aphidophagous. The larva observed by Hölldobler (1929) may not have been feeding. Predatory syrphid larvae emit saliva to defend themselves (Rotheray, 1986) and it is possible that the larva observed by Hölldobler (1929) had emitted saliva in response to the worker ant and that the interaction observed, was one of defence, not feeding. Such interactions have been observed between *Syrphus ribesii* (L.) larvae and *L. niger* worker ants on leaves of *Acer pseudoplatanus* L.

Feeding behaviour is unknown in *P. milleri*. Its cephalopharygeal skeleton is typical of aphidophagous Syrphidae, but no Homoptera were observed in the ant nests where *P. milleri* larvae were collected (Thompson, 1972). Palaearctic *Platycheirus* Lepeletier and Serville have a range of feeding habits from possibly generalised predation in the ground layer to aphidophagy with varying degrees of monophagy (Rotheray, 1993). The larva of *Trichopsomyia* indet., is stated by Hölldobler and Wilson (1990) to be a scavenger and a brood predator in ant nests. The only other information about *Trichopsomyia* early stages is that of the palaearctic species, *Trichopsomyia flavitarsis* (Meigen) which is a predator of the psyllid, *Livia juncorum* (Latreille) (Homoptera, Psylloidea) (Rotheray, 1993).

Despite the wide variation in external morphology of myrmecophilous syrphid larvae, there are shared features that may be adaptations to coping with attacks by worker ants. The morphology of the third stage Microdon larva is perhaps the most specialised in this respect. Many species have a very characteristic shape, usually a hemispherical dorsal surface and one or more bands of marginal setae. The anterior end of the larva is the folded down metathorax, with the mesothorax and prothorax retracted beneath the metathorax and hidden from view. The mesothorax and prothorax are narrow and, when searching for food, project from a notch in the marginal band of the metathorax. The dorsal surface is either smooth or coated in various arrangements of papillae bearing tufts of setae (Rotheray, 1993). The hemispherical shape and marginal band of setae are difficult for ants to grip. Microdon larvae move slowly and only minimally raise themselves up when moving so that they appear to glide over the substrate. Formica and Lasius worker ants seem unable to prevent the progress of these larvae, although they frequently bite off projecting setae (Barr, 1994).

Closest to *Microdon* in these characteristics is the larva of *P. milleri*. It shares a dome-like dorsal surface and a band of marginal projections. It also has an arrangement of papillae with tufts of setae on the dorsal surface and the mesothorax and prothorax are retracted beneath the folded metathorax. In the one larva examined, many projections of the marginal band and tufts of setae on the dorsal surface were missing, presumably removed by attacking ants. Next in similarity is the larva of *X. pedissequum* which also has a dome-like dorsal surface, but this larva lacks a marginal band and projecting papillae with setae. Instead, the larva is remarkably smooth and, when provoked, retracts its narrow thorax and the whole larva forms a lozenge-shape that probably makes it difficult for ants to bite.

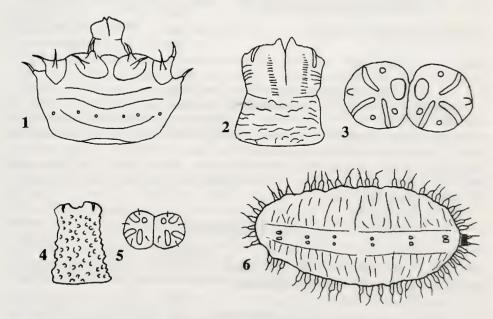
The larvae of *C. arcuatum* and *P. varipes* possess none of these features and they seem less protected. Although the larva of *P. varipes* is dorsoventrally flattened and coated in small nodule-like papillae which may enable it to enter narrow spaces and may also protect it from ant bites. The larva of *Trichopsomyia* indet., has not been studied but from the photograph in Hölldobler and Wilson (1990), it seems to be smooth, rounded and coated in blotches. The larva of *T. flavitarsis* has none of these features. Unusually for aphidophagous syrphid larvae, the larvae of *C. arcuatum*, *P. varipes* and *X. pedissequum* lack colour patterns and they are slow-moving. However, the lack of colour patterns is consistent with a subterranean existence and slow movement may prevent them being detected within the ant nest.

It is not clear whether *C. arcuatum*, *P. varipes* and *X. pedissequum* feed only on aphids in ant nests. It is possible that aphid colonies outside ant nests are utilised but GER observed a female *C. bicinctum* oviposit round the margins of a *L. niger* nest and BB made similar observations of a female *C. arcuatum* ovipositing near nests of *F. lemoni* and *L. niger* suggesting that ants are important components in oviposition. Aphids are notoriously

unpredictable in space and time. Colonies tended by ants may represent a more stable resource that is readily found.

In Britain, some *Chrysotoxum* species are quite common as adults but, curiously, larvae have never been reported as myrmecophiles (Pontin, 1959; Donisthorpe, 1927; Hölldobler and Wilson, 1990). It is likely that, in common with other aphidophagous syrphids (Rotheray, 1986), *Chrysotoxum* larvae move away from the ants when not feeding and hunt mostly at night. Such diurnal movement may be advantageous because *Chrysotoxum* larvae are relatively large but lack the protection of, for example, a hemispherical shape. Night time searches of ant nests in late summer and early autumn might be the best time to search for *Chrysotoxum* larvae as at this time, they are likely to be large and still coming into ant nests to feed.

Microdon, Pipizella and Trichopsomyia are closely related phylogenetically as are Chrysotoxum and Xanthogramma (Rotheray, 1993). Doros Meigen is closely related to Xanthogramma and the puparia are similar (Speight, 1988; Rotheray, 1993). The larval habits of Doros are unknown although Lundbeck (1916) summarises early observations of an association with ants. It is probable that Doros larvae are similar to Xanthogramma and are aphidophagous in ant nests. Including P. milleri, myrmecophily in Syrphidae appears to have evolved independently four or five times.



Figs. 1-6. Third stage larvae of myrmecophilous Syrphidae.

1-3, *Chrysotoxum arcuatum*: 1. anal segment, ventral view; 2. prp, dorsal view; 3. prp, apical view.

4-5, Pipizella varipes: 4. prp, dorsal view; 5. prp, apical view.

6, Platycheirus milleri, whole larva, dorsal view.

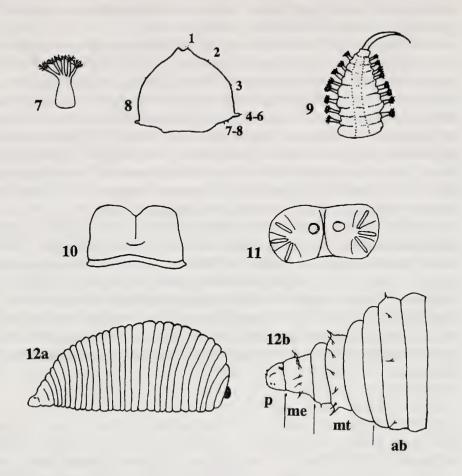


Fig. 7-12. Third stage larvae of myrmecophilous Syrphidae.

7-11, *Platycheirus milleri*: 7. papilla bearing tuft of setae from dorsal surface of abdominal segment six; 8. cross-section of abdominal segment two, numbers 1-8 represent positions of sensilla; 9. projection from marginal band of abdominal segment seven; 10. prp, dorsal view; 11. prp, apical view.

12, *Xanthogramma pedissequum*: 12a. whole larva, lateral view; 12b. thorax and abdominal segment one, lateral view, p = prothorax, me = mesothorax, mt = metathorax, ab = abdominal segment one.

# Acknowledgements

We are grateful to Francis Gilbert of Nottingham University and B.A. Holloway of the New Zealand Arthropod Collection for arranging a loan of larvae and puparia of *Platycheirus milleri*.

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# A personal view of recent ideas on butterfly taxonomy

At the end of his review of Butterflies of Surrey by G.A. Collins (*antea*: 97-98), Paul Sokoloff writes somewhat apologetically: "Perhaps it is only the reviewer that feels faintly uneasy at the sight of a Meadow Brown flying under the banner of the Nymphalidae, or who feels a little nostalgic at the demotion of the Satyridae to subfamily status?". I should like to assure Mr Sokoloff that he is not alone in this; indeed he probably has a good many sympathisers.

I would not for a moment, as a mere amateur, presume to question on taxonomic grounds the opinion (assuming it is well-founded) that not only the Satyridae, but a sizable contingent of largely exotic groups (eg. Danaidae and Nemeobiidae) along with them, are inseparable from the Nymphalidae. Only a specialist can marshal all the facts and bring to bear the necessary fine judgement in every case. However, practical considerations also deserve to be given some weight. The family Nymphalidae, even without all these recent recruits, is a vast enough assemblage as it is; with them, it is positively unwieldy and, one would have thought, so polymorphous as to call for some dismemberment – if only for convenience of treatment. In the case of a very large family of insects, of whatever order, the latter consideration may surely count for rather more than usual and the more sections of it that can with reason be split off, the better. What clearer candidate could there be for such treatment than the Nymphalidae, overburdened as it is in the latest re-classification with such a motley crew? The most up-to-date arrangements may well be the most exact in regard to rather abstruse morphological details, but are not necessarily the best when it comes to an overall balanced view of the matter, and need not always be automatically and uncritically followed just because they are the latest. (Dr T.T. Macan, a biologist of repute, persuasively put forward this view in 1955, Ent. mon. Mag. 91: 279-282.) In all this I do not overlook the frequent existence of connecting-forms, and the question of what to do with them, but that is a perennial problem in taxonomy. – A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8OG.

# Hazards of butterfly collecting, Ethiopia, 1981 - Spare that bouquet

The Ghion Hotel in central Addis Ababa is a rambling old-fashioned place set in huge untidy grounds which used to provide interesting butterfly collecting on business trips till they, sadly, were converted into formal gardens some years later. At the time, years after the toppling of Haile Selassie's regime, the words "Imperial" could still be made out faintly under an inadequate layer of revolutionary paint. There were better hotels in town – of the homogenised Hilton variety – but butterflies apart, the Ghion retained a certain charm which compensated for slipping standards of service and – shall we say – maturing of the buildings and furniture.

Many of my best butterfly photographs from Africa were taken in the gardens of Ghion after work, since the cool afternoons at 2000 metres, with occasional clouds, quietened down butterflies to a wonderfully co-operative level. In lowland areas butterflies are generally hyperactive till light for photography is insufficient.

One of the most interesting butterflies in Ethiopia is the African Cabbage White *Pieris brassicoides* Guerin-Ménéville, obviously closely related to the Palaearctic Cabbage Whites of the same genus, perhaps most strongly to the

Afghan and Himalayan *Pieris deota* De Nicéville. I was delighted to find this present in the garden. As far as I know no-one had ever seen the early stages of *P. brassicoides* and, more importantly, its chromosome number was unknown. So here was a real chance of doing some useful entomological discoveries on a business trip.

Walking to work the next morning, I saw a female Cabbage White flying about with the unmistakable air of being on the look-out for somewhere to lay her eggs. Since timings in Africa are not always very precise, I stayed to see what happened, and very soon she began to lay her eggs on a rape plant *Brassica napus*, an imported weed, also used by the Cabbage Whites of Europe and the Himalayas. And, contrary to the smaller cabbage whites of the genus *Artogeia* Verity, she laid her eggs in small evenly-spaced clutches, just like the other *Pieris* Schrank. I marked five or six egg-clutches to be picked up on my return in the afternoon.

Males were common in the garden later that day, so not only did I gather the plants with eggs, I also got some good photographs. More importantly, a small series of fresh males was collected in order to determine the chromosome number. The true members of the *Pieris* have a haploid chromosome number of n=15, while the smaller members classed in the genus *Artogeia* have n=25.

Unfortunately you do not just count the chromosomes. You have to extract the testicles from a freshly killed male butterfly, pickle them in Bouin's fluid, and – in my case – send them to Dr Saitoh in Japan for microscopic study, as was duly done.

The scraggy weeds with the egg-clutches were placed in an empty vase in my room to await hatching. I really wanted to see the colour pattern of the caterpillars, since those of the true *Pieris* differ from those of the *Artogeia*. I would also be able to delight many colleagues in Europe with gifts of the unknown caterpillars of this interesting butterfly; it might even be possible to get a laboratory population going for cross-breeding experiments.

When I came back from work the following day, there was a huge bouquet of pretty flowers on my desk. Well, room service was obviously improving. But where were my scraggy weeds and their precious eggs? Nowhere! The horror of the situation dawned on me. My little collection of flowers had been interpreted as a criticism, as a sign that I would like proper flowers in the room. I called in the staff – the eggs could not be refound, and I did not have the heart to be overly cross. And I had wonderful fresh flowers in my room each day.

I did not manage to find more eggs in the wild, but the pickled testicles made it to Japan, and in due course the chromosomes were counted. The haploid number was n=14, one short of those of the other true *Pieris*, validating the division of the genus into *Pieris* and *Artogeia*. And deep in my heart I still know that the caterpillar of *Pieris brassicoides* is going to match that of the European Cabbage White.— Torben B. Larsen, 358 Coldharbour Lane, London SW9 8PL.

### Arrivals of Cynthia cardui L. (Lep.: Nymphalidae) in Devon

Further to may earlier note on migrant lepidoptera in Devon (antea: ?), I can report several subsequent and significant influxes, particularly of Painted Lady Cynthia cardui L. On 30 May I witnessed a major arrival of this species, together with lesser numbers of other migrant lepidoptera at my home in west Devon. Single examples C. cardui and Vanessa atalanta L. appeared during the morning and by 1pm the temperature had risen considerably and rapidly-moving banks of altocumulus were accompanied by a warm wind from the south-east. Between 1.10pm and 1.22pm, sixteen cardui appeared from a south-easterly direction and the majority flew rapidly across our meadows, continuing towards Cornwall. Thirty of these butterflies were seen during the half hour from 1.10-1.40pm, together with three atalanta, one Macroglossum stellatarum L. and a single Autographa gamma L., which paused to investigate a flowering Rhododendron. By midafternoon cardui's rate of arrival had fallen to about 20-25 per hour. Altogether about fifty were seen during the day. The approximate arrival rates at our eighty-vard long, south-east-facing boundary hedge, were 1.10-1.22: 80 per hour: 1.22-1.40: 47 per hour; 1.55-2.10: 20-25 per hour; and 2.45-3.00: 20-25 per hour. It would seem, then, that the influx peaked here at about, or sometime before, 1pm. The landfall was probably close to Stoke Point, fifteen miles to the south-east. By 5pm the wind had veered to the south-west, the sky clouded over and the temperature fallen; thus ending the only noteworthy event in an otherwise dreary and uneventful month.

However, on 6 June, the hottest day so far of this year, cardui again started to appear in large numbers. Twenty-two crossed our boundary hedge between 1.00 and 1.15pm, together with one stellatarum and a few decidedly battered atalanta. By mid-afternoon, five or six cardui were arriving every fifteen minutes and two further stellatarum were noted. Small numbers of cardui continued to appear until mid-evening. The following day, 7 June, started thundery with much heavy rain but by late morning the sun appeared and yet another wave of cardui arrived. Twenty crossed our meadow between 11.15 and 11.25am and both gamma and stellatarum were active in our garden. During my customary weekend Dartmoor walk, on 8 June, untold thousands of cardui were again seen, approaching from the south. Over one hundred were counted in ten minutes. Several could be seen at any one time and again, stellatarum and gamma were present, the latter in very large numbers. Returning home at around 2pm, swarms of cardui were crossing the A386 road, making avoidance impossible. Even through the limited field of view afforded by the car's windscreen six or ten were often visible. This is clearly not just a localised phenomenon, as on 9 June cardui was seen in lesser numbers around Birmingham and in Nottingham city centre.- R.W. Bogue, Kingston House, Tuckermarsh, Bere Alston, Devon PL20 7HB.

#### TWO WEEKS ENTOMOLOGISING IN BULGARIA, 12-26 SEPTEMBER 1995

#### B. GOATER

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I WAS INVITED by my friend, Stoyan Beshkov of Sofia, to spend two weeks in Bulgaria in September 1995. This was my first visit to south-east Europe, to a country where few foreign entomologists go. My experiences will perhaps be of interest to others who may contemplate making acquaintance with the rich lepidopterous fauna of Bulgaria.

My wife and I had considered loading our camper-van with equipment and driving across Europe, but we were deterred by two considerations. The first was the fact that circumstances forbade us to be away for more than three weeks, and we thought that we should postpone a joint expedition until we could be away together for at least a month; secondly, the direct route would take us through places of political unrest, and again postponement seemed sensible. So it was decided I should fly alone to Sofia, and that Stoyan and I should use public transport to get around, and use collecting techniques which he had tried and found successful.

The Austrian Airlines flight left Heathrow at 07.30 and, having changed aircraft at Vienna, I was met by Stoyan at Sofia Airport in early afternoon. There is a two-hour time difference between London and Bulgaria. Passage through Immigration Control was without incident (you need a Visa), and a short journey by articulated bus took us to the eastern outskirts and to my friend's flat. These buses are used throughout Sofia and originated in France - the instructions about minding your head and leaving the doorway clear are all in French. Everything else is in Cyrillic, including place-names and bus destinations, and travel without a Bulgarian companion would have presented formidable problems! Naturally I was eager to begin sampling the moth population, and a mercury-vapour lamp was set up on the balcony for my benefit while I was being wined and dined and welcomed by Stoyan and his family. The lamp attracted little to indicate the excitements to come, but it was interesting to see Emmelia trabealis\* at a balcony on the 7th floor in suburban Sofia. A pug, arrested on suspicion, turned out the be Eupithecia ochridata. This species bears a close resemblance to E. innotata, and ought to be looked for in Britain. The larva feeds on Artemisia.

Before we could set out in earnest, the formalities of a visit to the Police Station in Sofia, where I had to "sign in" for the duration of my visit, had to be observed. Again, the presence of Stoyan at my side proved invaluable, as the form I had to fill in was again entirely in Cyrillic and completely incomprehensible to one from western Europe! That done, we caught a bus to our first destination, the famous Kresna Gorge in the south-west of Bulgaria. It appears that every hamlet in the country is connected to the \*Authors of all species names are given in Appendix 1.

outside world by public transport. Apart from the state-operated railways and town buses, numerous privately-owned coaches ply between the larger towns, and we found that on the Black Sea coast fleets of minibuses vied for passengers with the state-owned buses. The only snag with the privately-operated vehicles was that we had our ears blasted by western pop musak for the whole of every journey. I had travelled some 3000km to get away from this sort of thing, and longed to hear instead some of the delightful native folk music – or silence! By our standards, the fares are incredibly cheap: journeys of around 150km seldom cost more than £2, and our last train journey, some 500km from the Black Sea coast back to Sofia, cost about £4!

The Struma river runs southwards down the Kresna Gorge; on the west side is the road, and the railway passes along the opposite bank. The disused Stara Kresna Halt is reached from the road by a narrow path and a ricketty cable-and-wood bridge. Having crossed this bridge and walked a hundred metres or so along the railway, we reached the Halt, which is still manned by relays of signalmen, all of whom seemed accustomed to Stoyan's entomological forays. We were soon fixed up with a plug-in for the night, and had time for some local exploration before nightfall. A dark tunnel under the railway is a known haunt of one of the cave-inhabiting Autophila species, A. ligaminosa, but our torches revealed nothing except a few Hypena rostralis. Out in the sunshine, numerous crambids were flying. One or two which I kept, thinking they were Agriphila inquinatella, turned out on subsequent examination to be A. brionella; another species that was clearly different from A. geniculea was indeed A. dalmatinella. Minoa murinata was flying among the spurges, and another familiar old friend was Aspitates ochrearia.

We painted a wine-and-sugar mixture on the local trees which was attended by various common western European noctuids as well as several *Cryphia ochsi*, a worn specimen of the rare *Anthracia eriopoda*, *Polyphaenis subsericata* and *Divaena haywardi* which unfortunately was missed. My first night's "real" lamping in Bulgaria, in fine, warm conditions, produced numerous species hitherto unknown to me, including *Scopula ochraceata*, *Catarhoe permixtaria*, *Horisme corticata*, *Aplocera dervenaria*, *Nychiodes dalmatina*, *Peribatodes correptaria*, *Atethmia ambusta*, *Cryphia selaona* subsp. *burgeffi*, *C. rectilinea*, *Praestilbia armeniaca*, *Abrostola agnorista*, the consolation of another *haywardi*, this time boxed successfully, and nearly a dozen fresh *subsericata*. We slept in our sleeping bags under an old picnic shelter beside the railway, Stoyan on one of the benches, I on the table. Apart from the sleeping bag, my rucksack held a setting case and equipment, and most of the choicest captures of the night were dealt with before we set off next day.

In going from place to place in Bulgaria one has two options, to wait (for transport) or to walk. In this remote spot, we opted to walk, how far I knew

not, but we had not gone more than a kilometre when an amiable lorry driver picked us up and took us to the major road junction we needed. *En route*, we stopped at a roadside cafe where we found *dalmatina*, *correptaria* and *Tephrina arenacearia* on the windows. Another walk brought us to a village from which there would be a bus to our destination, Melnik – in two hours. This gave us time for coffee and a bite to eat: Stoyan produced from his rucksack bread, two sorts of cheese and sausage, which was our staple diet for every meal. Each day we bought a bottle of wine. Half of it would be used for the sugaring mixture, and the rest we drank with our bread and cheese and sausage in the evening.

Melnik is an enchanting village in the Pirin mountains of south-west Bugaria, full of history. Unfortunately, a hectic mothing expedition does not allow much time for sight-seeing, and by the time we had organised ourselves into a hostel for the night (with plug-in), it was time to get started. Incidentally, it is essential to have one's passport to hand at all times: now it had to be produced when arranging accommodation, for "rich" foreigners are expected to pay twice as much as the locals – two pounds instead of one pound!

Though no great distance from Kresna, Melnik offers a very different lot of moths. At sugar, *Eugnorisma pontica* was present in some numbers. This was a species I was particularly keen to see, to compare it with our own *E. depuncta* and the Spanish *E. arenoflavida*, which at one time was thought to be a form of *pontica*. Another interesting species was *Xestia cohaesa*, at light and sugar. We were to see more of this in other localities, but *pontica* we saw nowhere else except at Rozhen, a few kilometres over the hills. Before nightfall, we looked in another cave system, and here we were successful in finding a few fresh *A. ligaminosa*.

The fauna of the Balkans includes a number of very interesting species of *Agrochola*, most of which fly later in the autumn. Mid-September is right for *A. gratiosa*, however, and we were rather disappointed to see only one here, at light, and two more next night, at Rozhen, at sugar.

Next morning, after the usual wait, we went by bus the short distance to Rozhen, and walked up the hill to the ancient Rozhenski Monastery where we hoped for a plug-in for the night. This was refused, but we found a few things inside the buildings, including several *corticata* and *armeniaca*, and *Sesamia nonagrioides*. After a tour of the monastery, we sat in the sun and ate our meal, and wondered what to do for the night. Eventually, we went back down into the village, found the last bus had departed, and had no alternative but to stay there. We got talking to an old man who was a proprietor of a winery, where home-distilled brandy was also dispensed. He persuaded us to partake of this magical liquor, later selecting one of a heterogeny of bottles which held about a litre, and filling it for me to take home – another pound's worth! He also indicated he had a spare room we could use, in which we installed ourselves. Apart from the regulation pound,

the price we paid was to get soundly bitten by fleas! A plug-in at a hostelry up the road was unproductive, but sugaring yielded more *pontica*, two *Parascotia fuliginaria* and the aforementioned *gratiosa*.

Next day, we made our way back to Sofia, by bus and train.

Our next major expedition was to the East Rhodopi mountains in southeast Bulgaria, whence we set off on 18 September, arriving at the village of Studen Kladenetz by mid-afternoon. This time we took with us a brand new Honda two-stroke generator, carried covered in a sewing machine case. Stovan said this was the only generator in the whole of Bulgaria! He carried it, while I was entrusted with a number of plastic bottles of fuel, which I considered dangerous. However, there was no mishap, except that when we started up, we found to our dismay that the machine would only run for one hour before it ran out of fuel. There was very little we could do except take turns to stay up and refuel the brute every 55 minutes. We operated in a small field below a fine, mineral-rich rocky hillside of diverse colour. Sugaring along the hedgerows was practically useless, but light produced some very interesting species once more. At dusk, there was a run of the hepialid, Triodea amasina. Later, I was delighted to see for the first time three species of *Episema* characteristic of south-east Europe, the common *E*. tersa, which replaces the western E. glaucina and is equally variable, several E. korsakovi and two female E. lederi, the last a surprise. Another notable species was Leucania herrichi, two worn specimens of which appeared at the sheet. Recently discovered in Bulgaria, this species is known elsewhere in Europe only from Greece. Cryphia seladona appeared again, and also worn specimens of C. amasina, a close relative of C. muralis. The weather remaining fine, we slept on the grass without discomfort.

Next day, we made our way back to a chalet in the woods near the busy town of Madzharovo. In the town, we found Agrius convolvuli at rest on a post. I sat at a table near a block of flats, and set moths, while Stoyan sought help over the generator. This took some time, and a small crowd of young ladies gathered around me meanwhile: giggly at first, they discovered we could communicate to some extent using German, which they were learning at school, and conversation blossomed. They showed me their science textbooks, the diagrams in which made some sense, asked lots of questions about England and about moths, and told me about themselves and their town. I drew them sketch maps showing them my home town, and also the locations of Liverpool and Manchester, for they knew about the Beatles and also Manchester United! After they had gone, a very young child appeared who was amused at the friendly faces I pulled. Within an hour, he could say "Hello" and "Goodbye" quite nicely. I was teaching him, "Have a nice day!", when Stoyan reappeared and we set off for more serious work. The deciduous woodland around the Momina Skala Chalet is another very rich locality, and a further crop of new species came my way. I was particularly pleased with a nice series of Evergestis serratalis. Xestia cohaesa was

common here. Other "goodies" included the small herminiid, *Orectis proboscidata*, two specimens of *Polymixis serpentina*, a species superficially very like *Melanchra persicariae*, one of the very rare *Agrochola osthelderi*, two worn *Lemonia balcanica* and a single *Eupithecia ericeata*. An unfamiliar crambid that appeared in some numbers turned out to be *Pediasia matricella*.

In the town, we met a group of young ornithologists who were part of a joint Swiss/Bulgarian Bird Conservation project, studying in particular the large raptors and Black Storks which occurred in the vicinity. One of them drove us a good 80km to our next destination, Meden Buk, a remote hamlet near the town of Ivailovgrad. This place we discovered was cut off from the rest of civilisation by a fast but shallow rocky river. We could see the track continuing on the far side, and our driver confidentially headed out into the torrent. Inevitably, the engine stopped and we all got out to push the car back ashore. After some time a tractor trundled into sight; the car was attached and pulled back uphill and released. The engine started, our driver headed for home, and we completed our journey packed into the cab of the tractor, ending up at the hostelry where we drank each other's health in the local brandy. We walked a little way up the river valley and set up for the night and were rewarded with more *Episema*, two more *serpentina* and the first of the beautiful and local "thorn", *Eumera regina*.

The following day, after a long wait, we got a lift into Ivailovgrad and thence by bus to our last locality in the Rhodopis, Byalo Pole. We found a spot beside a small stream, with a long line of calcareous hillside alongside. We also encountered our first rain, but discovered an empty barn, beneath the overhang of which we operated the lamp. This proved to be a good spot for *regina*, and also for *Episema* including a lot of *E. lederi*; we also saw the scarce plusiid, *Euchalcia consona*, two more *agnorista*, and *Acontia urania* besides a lot of other species. I was surprised to see a number of *Antigastra catalaunalis*. The barn turned out to be rat-infested, but we slept there without being bothered by them.

Stoyan had planned for me to end my first visit to his country on the Black Sea coast. This involved a day-long journey by bus, then by train to Burgas on the coast, and finally by another bus and taxi to some dunes near Arkulino, south of that town. We obtained a plug-in at a restaurant, unfortunately with a lot of its own illumination, and so our catch was meagre but included *Luperina rubella*, *Atethmia ambusta*, *Agrotis vestigialis*. *Euchromius ocellea* and *Evergestis limbata*. We slept on the dunes and were fortunate to get up next morning in the nick of time, before an onset of heavy rain.

Finally to the famous "Silberküste", calcarous cliffs and undercliff to the north of Balchik, known for the white or very pale forms of several species which occur there and nowhere else, and for other extremely local species.

The plan was to hire a chalet for the night in the tourist centre, and to plug in there, but we found the season had ended and everything was shut up. While wandering around rather aimlessly, we were seen by the proprietor of the hotel, who insisted on opening up for our benefit and installing us in a room with a balcony where we could run our lamp. His assistant furthermore opened the bar for us, where we drank brandy until the proprietor reappeared with his girlfriend and a whole bottle of the stuff. In the end we had to excuse ourselves and get on with our mothing.

On our arrival in the hotel foyer, we immediately spotted several specimens of the extremely local *Mycteroplus puniceago* resting on the walls, having been attracted to the lights, and this started a protracted search of the whole of the hotel and any other buildings in the vicinity which had illumination. The most productive place was the storeroom in the back of the supermarket, entered via an open window while the hotelier's assistant kept watch. That night was cold and windy, and little flew, but we were well satisfied with a total of 29 *puniceago*, a number of the phycitine, *Spermatophthora hornigii* and several other species found in and around buildings. The most notable moths at our own light were several more *ocellea*.

After a bus ride from Balchik to Varna next morning, we took a train back to Sofia, a leisurely journey through most beautiful countryside. A final night in Stoyan's home, then to the airport and back to Heathrow, where I was greeted by torrential rain.

Though it is clear that Bulgaria is still unaccustomed to western tourists, I was able to visit many parts of the country by public transport, and to enter and leave Bulgaria without difficulty. Provided one follows a few basic rules, such as having correct documentation on one's person at all times, there should be no hassle. The greatest problem was that few people spoke any of the western European languages, and the Cyrillic alphabet makes even commonplace words look unfamiliar. It was a huge advantage to be accompanied by a Bulgarian friend with fluent English. The pace of life is much less hectic than ours, but one always seems to reach one's destination in good time. Coffee, brandy and friendliness remove the tedium of waiting and add greatly to the enjoyable experience of visiting a land so different from our own. A fortnight is much too short a time to get more than a taste of the moth fauna, of course. The season goes on well into November, there are good species to be found in springtime, and the specialities of the "Silberküste" are at their best in early July. A return visit in the near future is a high priority.

#### Appendix 1: Lepidoptera recorded in Bulgaria, 12-26 September 1995

#### Hepialidae

- *Triodia sylvina* (Linn.) SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., two; SW BG Rozhen, 15.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- T. amasina (H.-S.) East Rhodopi Mts, Studen Kladenetz, 18.ix., twenty or more males; East Rhodopi Mts, Meden Buk, 20.ix., one female.

#### Pyralidae

- Euchromius ocellea (Haw.) Black Sea coast, Arkulino nr. Primorsko, 22.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., four, genitalia checked.
- Agriphila tristella ([D. & S.]) SW BG Rozhenski Monastery, 15.ix., one inside building; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one in hotel.
- A. inquinatella ([D. & S.]) East Rhodopi Mts., Studen Kladenetz, 18.ix., East Rhodopi Mts, Meden Buk, 20.ix., single specimens kept from each locality and genitalia det. Others probably present.
- A. brionella (Zerny) SW GB, Kresna Gorge, 13.ix., one specimen genitalia det., others probably seen by day and at night; SW BG, Melnik, 14.ix., two, genitalia det.
- A. latistria (Haw.) East Rhodopi Mts, Meden Buk, 20.ix., two; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- A. dalmatinella (Hamps.) SW BG, Kresna Gorge, 13.ix., several by day and at light; SE BG, Melnik, 14.ix., several; East Rhodopi Mts, Studen Kladenetz, 18.ix., common; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one. Gentalia det. from all localities.
- Pediasia matricella (Treits.) SW BG, Kresna Gorge, 13.ix., three; East Rhodopi Mts, Studen Kladenetz, 18.ix., three; East Rhodopi Mts, Meden Buk, 20.ix., two.
- Catoptria confusella (Stdgr.) East Rhodopi Mts, Studen Kladenetz, 18.ix., two; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., two.
- Ancylolomia palpella ([D. &. S.]) SW BG, Kresna Gorge, 13.ix., one; SE BG, Melnik, 14.ix., two.
- A. tentaculella (Hübn.) SW BG, Rozhen, 15.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., three.
- Eudonia mercurella (Linn.) East Rhodopi Mts, Studen Kladenetz, 18.ix., one.
- Evergestis limbata (Linn.) Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- E. serratalis (Stdgr.) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., ten; East Rhodopi Mts, Meden Buk, 20.ix., five; East Rhodopi Mts, Byalo Pole, 21.ix., three.
- Aporodes floralis (Hübn.) SW BG, Melnik, 14.ix., one.
- Hellula undalis (Fabr.) East Rhodopi Mts, Meden Buk, 20.ix., East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Pyrausta aurata (Scop.) East Rhodopi Mts, Byalo Pole, 21.iix., one.
- *P. purpuralis* (Linn.) SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- P. sanguinalis (Linn.) SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., one.

- P. rectefascialis (Toll) East Rhodopi Mts, Byalo Pole, 21.ix., five.
- Ecpyrrhorroe rubiginalis (Hübn.) SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts. Byalo Pole, 21.ix., one.
- Paracorsia repandalis ([D. & S.]) SW BG, Kresna Gorge, 13.ix., two; SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one.
- Ostrinia nubilalis (Hübn.) SW BG, Kresna Gorge, 13.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Euclasta splendidalis (H.-S.) SW BG, Melnik, 14ix., one.
- Ebulea testacealis (Zell.) SW BG, Kresna Gorge, 13.ix., one by day.
- Udea ferrugalis (Hübn.) Sofia town, 12.ix., one; SW BG, Kresna Gorge, 13.ix., several; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two; East Rhodopi Mts, Meden Buk, 20.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., two; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.
- Nomophila noctuella ([D. & S.]) Sofia town, 12.ix., one; SW BG, Kresna Gorge, 13.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., several; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.
- Antigastra catalaunalis (Dup.) East Rhodopi Mts, Meden Buk, 20.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., five.
- Metasia ophialis (Treits.) SW BG, Kresna Gorge, 13.ix., two; East Rhodopi Mts, Studen Kladenetz, 18.ix., two.
- *Pleuroptya ruralis* (Scop.) SW BG, Kresna Gorge, 13.ix., several; SW BG, Melnik, 14.ix., two; East Rhodopi Mts, Studen Kladenetz, 18.ix., three; East Rhodopi Mts, Meden Buk, 20.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., three.
- Palpita unionalis (Hübn.) SW BG, Rozhen, 15.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- P. testalis (Fabr.) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one
- Hypsopygia costalis (Fabr.) East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Actenia brunnealis (Treits.) SW BG, Kresna Gorge, 13.ix., 2 by day; SW BG, Melnik, 14.ix., two.
- A. honestalis (Treits.) Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- Orthopygia glaucinalis (Linn.) East Rhodopi Mts, Studen Kladenetz, 18.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- O. fulvocilialis (Dup.) SW BG, Kresna Gorge, 13.ix., two.
- Pyralis regalis ([D. & S.]) SW BG, Kresna Gorge, 13.ix., one.
- P. farinalis Linn. Black Sea coast, Belija Briag nr. Balchik, 23.ix., several inside hotel.
- Endotricha flammealis ([D. & S.]) SW BG, Kresna Gorge, 13.ix., two; SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., one.
- Oncocera semirubella (Scop.) SW BG, Kresna Gorge, 13.ix., one.
- Bradyrrhoa gilveolella (Treits.) East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., three; East Rhodopi Mts, Byalo Pole, 21.ix., one. All genitalia det.

- Etiella zinckenella (Treits.) SW BG, Melnik, 14.ix., two; East Rhodopi Mts, Meden Buk, 20.ix., three; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.
- Oxybia transversella (Dup.) SW BG, Melnik, 14.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Acrobasis repandana (Fabr.) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one.

Numonia advenella (Zinck.) - SW BG, Melnik, 14.ix., one.

#### Thyatiridae

Cymatophorima diluta ([D. & S.]) – East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one.

#### Geometridae

Hemistola chrysoprasaria (Esp.) - SW BG, Melnik, 14.ix., one.

- Eucrostes indigenata (de Vill.) SW BG, Kresna Gorge, 13.ix., two; SG BG, Rozhen, 15.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one.
- Cyclophora puppillaria (Hübn.) East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Medzharovo, 19.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Timandra griseata (W. Pet.) East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Scopula ochraceata (Stdgr.) SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., two; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., four; East Rhodopi Mts, Meden Buk, 20.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., several.
- S. marginepunctata (Goeze) SW GB, Melnik, 14.ix., several; East Rhodopi Mts, Studen Kladenetz, 18.ix., two; East Rhodopi Mts, Meden Buk, 20.ix., two; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- S. imitaria (Hübn.) SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one in hotel.
- Glossotrophia confinaria (H.-S.) East Rhodopi Mts, Studen Kladenetz, 18.ix., one.
- Idaea filicata (Hübn.) SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., one.
- I. dimidiata (Hufn.) East Rhodopi Mts, Byalo Pole, 21.ix., one.
- camparia (H.-S.) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; Black Seas coast, Belija Briag nr. Balchik, 23.ix., several around lights of buildings.
- I. degeneraria (Hübn.) SW BG, Kresna Gorge, 13.ix., two; SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., several; East Rhodopi Mts, Byalo Pole, 21.ix., two.
- Rhodometra sacraria (Linn.) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Lythria cruentaria (Hufn.) SW BG, Kresna Gorge, 13.ix., one by day.
- Cataclysme riguata (Hübn.) SW BG, Melnik, 14.ix., one.
- Xanthorhoe fluctuata (Linn.) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.

Epirrhoe galiata ([D. & S.]) – Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.

Camptogramma bilineata (Linn.) – SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one in hotel.

Catarhoe permixtaria (H.-S.) – SW BG, Kresna Gorge, 13.ix., two.

Cosmorhoe ocellata (Linn.) - Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.

Horisme corticata (Treits.) – SW BG, Kresna Gorge, 13.ix., three; SW BG, Melnik, 14.ix., three; SW BG, Rozhenski Monastery, 15.ix., three inside buildings.

Perizoma bifaciata (Haw.) – SW BG, Kresna Gorge, 13.ix., one.

Eupithecia linariata ([D. & S.]) – Black Sea coast, Arkulino nr. Primorsko, 22.ix., one

E. centaureata ([D. & S.]) – East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.

E. ochridata Pinker – Sofia town, 12.ix.,; SW BG, Kresna Gorge, 13.ix., two. All genitalia det.

E. variostrigata (Alph.) - Black Sea coast, Belija Briag nr. Balchik, 23.ix., two inside hotel.

E. ericeata (Rambur) – East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one.

Gymnoscelis rufifasciata (Haw.) – East Rhodopi Mts, Byalo Pole, 21.ix., one.

Minoa murinata (Scop.) – SW BG, Kresna Gorge, 13.ix., several by day.

Aplocera dervenaria (Mentzer) – SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., one.

Ligdia adustata ([D. & S.]) – SW BG, Kresna Gorge, 13.ix., one.

Semiothisa alternaria (Hübn.) – SW BG, Rozhen, 15.ix., one.

Tephrina arenacearia ([D. & S.]) – SW BG, Gradeshnitza village, 14.ix., one on window of inn.

Ennomos erosaria ([D. & S.]) – SW BG, Kresna Gorge, 13.ix., one.

E. fuscantaria (Steph.) – East Rhodopi Mts, Meden Buk, 20.ix., one male.

Eumera regina (Stdgr.) – East Rhodopi Mts, Meden Buk, 20.ix., one male; East Rhodopi Mts, Byalo Pole, 21.ix., two females, seven males.

Artiora evonymaria ([D. & S.]) – East Rhodopi Mts, Byalo Pole, 21.ix., two.

Crocallis tusciaria (Borkh.) - East Rhodopi Mts, Byalo Pole, 21.ix., one.

C. elinguaria (Linn.) – SW BG, Kresna Gorge, 13.ix., two; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., two.

Nychiodes dalmatina (Wagn.) – SW BG, Kresna Gorge, 13.ix., two; SW BG, Gradeshnitza village, 14.ix., one on window of inn.

N. waltheri (Wagn.) – East Rhodopi Mts, Meden Buk, 20.ix., two females; East Rhodopi Mts, Byalo Pole, 21.ix., five.

Peribatodes correptaria (Zell.) – SW BG, Kresna Gorge, 13.ix., three; SW BG, Gradeshnitza village, 14.ix., one on window of inn; East Rhodopi Mts, Studen Kladenetz, 18.ix., three; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., several; East Rhodopi Mts, Meden Buk, 20.ix., several; East Rhodopi Mts, Byalo Pole, 21.ix., several.

- P. rhomboidaria ([D. & S.]) East Rhodopi Mts, Studen Kladenetz, 18.ix., several; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., several; East Rhodopi Mts, Meden Buk, 20.ix., several; East Rhodopi Mts, Byalo Pole, 21.ix., several; Black Sea coast, Arkulino nr. Primorsko, 22,ix., one.
- Peribatodes umbraria (Hübn.) SW BG, Kresna Gorge, 13.ix., two; SW BG, Melnik, 14.ix., several; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two; East Rhodopi Mts, Meden Buk, 20.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., several.
- Selidosema plumaria ([D. & S.]) SW BG, Kresna Gorge, 13.ix., three; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Gnophos sartatus (Treits.) East Rhodopi Mts, Studen Kladenetz, 18.ix., one.
- Campaea margaritata (Linn.) SW BG, Kresna Gorge, 13.ix., two; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- Dyscia sicanaria (Zell.) East Rhodopi Mts, Studen Kladenetz, 18.ix., two; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., three; Yazovin Ivailograd dam, 20.ix., three on wall by police checkpoint; East Rhodopi Mts, Byalo Pole, 21.ix., one female; Black Sea coast, Belija Briag nr. Balchik, 23.ix., several inside buildings, one at light.
- Aspitates ochrearia Rossi SW BG, Kresna Gorge, 13.ix. several by day; East Rhodopi Mts, Studen Kladenetz, 18.ix., two females; East Rhodopi Mts, Meden Buk, 20.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., two females; Black Sea coast, Belija Briag nr. Balchik, 23.ix., inside hotel.

#### Sphingidae

- Agrius convolvuli (Linn.) East Rhodopi Mts, Madzharovo town, 19.ix., one resting on a post.
- Macroglossum stellatarum (Linn.) East Rhodopi Mts, Byalo Pole, 21.ix., one at light. Single specimens seen in a number of places by day.
- Hyles euphorbiae (Linn.) East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.

#### Notodontidae

Pterostoma palpina (Clerck) – East Rhodopi Mts, Byalo Pole, 21.ix., one.

Clostera pigra (Hufn.) - SW BG, Rozhen, 15.ix., one.

#### Thaumetopoeidae

Thaumetopoea solitaria (Freyer) – East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., ten males. A very local species in Bulgaria (Beshkov, 1995).

T. pityocampa ([D. & S.]) – SW BG, Melnik, 14.ix., one.

#### Lymantriidae

Euproctis similis (Fuessly) – East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one.

Lymantria dispar (Linn.) - SW BG, Kresna Gorge, 13.ix., one male.

#### Arctiidae

Eilema sororcula (Hufn.) – East Rhodopi Mts, Byalo Pole, 21.ix., one.

- E. morosina (H.-S.) SW BG, Kresna Gorge, 13.ix., three; SW BG, Melnik, 14.ix., two.
- E. caniola (Hübn.) SW BG, Melnik, 14.ix., several; SW BG, Rozhen, 15.ix., several; East Rhodopi Mts, Studen Kladenetz, 18.ix., several; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., several; East Rhodopi Mts, Byalo Pole, 21.ix., several.
- E. pseudocomplana Daniel SW BG, Kresna Gorge, 13.ix., common. What was probably this species also seen in other localities, but not examined critically.
- *Phragmatobia fuliginosa* (Linn.) SW BG, Roxhen, 15.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Euplagia quadripunctaria (Poda) SW BG, Kresna Gorge, 13.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one.

#### Syntomidae

Dysauxes famula (Frey.) – SW BG, Kresna Gorge, 13.ix.; SW BG, Melnik, 14.ix.; SW BG, Rozhen, 15.ix.; East Rhodopi Mts, Studen Kladenetz, 18.ix.; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix.; East Rhodopi Mts, Meden Buk, 20.ix. Common in all localities.

#### Nolidae

Meganola strigula ([D. & S.]) – SW BG, Kresna Gorge, 13.ix., one.

#### Noctuidae

- Euxoa obelisca ([D. & S.]) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one.
- E. temera (Hübn.) Sofia town, 12.ix., one; SW BG, Melnik, 14.ix., one at sugar, one at light.
- E. cos (Hübn.) East Rhodopi Mts, Meden Buk, 20.ix., one.
- E. segnilis (Dup.) Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- Agrotis vestigialis (Hufn.) Black Sea coast, Arkulino nr. Primorsko, 22.ix., five.
- A. exclamationis (Linn.) Sofia town, 12.ix., one.
- A. trux (Hübn.) SW BG, Kresna Gorge, 13.ix., several; SW BG, Melnik, 14.ix., several at sugar and light; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- A. ipsilon (Hufn.) SW BG, Kresna Gorge, 13.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.
- A. puta (Hübn.) SW BG, Kresna Gorge, 13.ix., several; East Rhodopi Mts, Byalo pole, 21.ix., several; Black Sea coast, Belija Briag nr. Balchik, 23.ix., two.
- A. crassa (Hübn.) Sofia town, 12.ix., one; SW BG, Melnik, 14.ix., at sugar and light; SW BG, Rozhen, 15.ix., one at light, one at sugar; East Rhodopi Mts, Studen Kladenetz, 18.ix., several; East Rhodopi Mts, Meden Buk, 20.ix., one.
- Eugnorisma pontica (Stdgr.) SW BG, Melnik, 14.ix., several at sugar and light; SW BG, Rozhen, 15.ix., several at sugar.
- Chersotis rectangula ([D. & S.]) SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two. All specimens worn.
- Noctua pronuba (Linn.) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., two.

- N. comes (Hübn.) SW BG, Kresna Gorge, 13.ix., two; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- N. fimbriata (Schreb.) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two.
- N. tirrenica Bieb. et al. SW BG, Kresna Gorge, 13.ix., one.
- N. tertia Moberg et al. Sofia town, 12.ix., one; SW BG, Rozhen, 15.ix., one at sugar.
- N. interjecta (Hübn.) East Rhodopi Mts, Byalo Pole, 21.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- Divaena haywardi (Tams) SW BG, Kresna Gorge, 13.ix., one at light, one at sugar.
- Epilecta linogrisea ([D. & S.]) East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two.
- Xestia c-nigrum (Linn.) Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.
- X. cohaesa (H.-S.) SW BG, Melnik, 14.ix., four; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., common; East Rhodopi Mts, Meden Buk, 20.ix., several; East Rhodopi Mts, Byalo Pole, 21.ix., several.
- X. xanthographa ([D. & S.]) SW BG, Melnik, 14.ix., several at sugar and light; SW BG, Rozhen, 15.ix., one at light, one at sugar; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.
- *Mesogona acetosellae* ([D. & S.]) East Rhodopi Mts, Studen Kladenetz, 18.ix., two; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Discestra trifolii (Hufn.) SW BG, Melnik, 14.ix., two; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., two.
- Lacanobia oleracea (Linn.) East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Tholera decimalis (Poda) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one male.
- Mythimna ferrago (Fabr.) East Rhodopi Mts, Byalo Pole, 21.ix., two.
- M. albipuncta ([D. & S.]) SW BG, Kresna Gorge, 13.ix., three; East Rhodopi Mts, Studen Kladenetz, 18.ix., several; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., two; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one; Black Sea coast, Belija Briag Nr. Balchik, 23.ix., one.
- M. vitellina (Hübn.) East Rhodopi Mts, Studen Kladenetz, 18.ix., two; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., two; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one inside hotel; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.
- M. scirpi (Dup.) SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., one.
- M. l-album (Linn.) East Rhodopi Mts, Studen Kladenetz, 18.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one inside hotel, one at light.
- Leucania herrichi (H.-S.) East Rhodopi Mts, Studen Kladenetz, 18.ix., two, worn. Recorded for the first time in Bulgaria in 1992. Elsewhere in Europe, known only from Greece (Beshkov, 1995).

- L. putrescens (Hübn.) SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., one; SW BG, Rozhen, 15.ix., one.
- Acantholeucania loreyi (Dup.) SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., one; SW BG, Rozhen, 15.ix., one.
- Episema tersa ([D. & S.]) SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., several; East Rhodopi Mts, Byalo Pole, 21.ix., two.
- E. korsakovi (Christ.) East Rhodopi Mts, Studen Kladenetz, 18.ix., four; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., several; East Rhodopi Mts, Meden Buk, 20.ix., several; East Rhodopi Mts, Byale Pole, 21.ix., several.
- E. lederi (Christ.) East Rhodopi Mts, Studen Kladenetz, 18.ix., two females; East Rhodopi Mts, Byalo Pole, 21.ix., ten.
- Aporophyla canescens (Dup.) East Rhodopi Mts, Studen Kladenetz, 18.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Meganephria bimaculosa (Linn.) East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Dryobotodes carbonis (Wagner) East Rhodopi Mts, Byalo Pole, 21.ix., one.
- Polymixis serpentina (Treits.) East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two; East Rhodopi Mts, Meden Buk, 20.ix., two.
- Agrochola osthelderi Boursin East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one. A very scarce and local species in Bulgaria (Beshkov, 1995).
- A. gratiosa (Stdgr.) SW BG, Melnik, 14.ix., one; SW BG, Rozhen, 15.ix., two at sugar.
- Atethmia centrago (Haw.) East Rhodopi Mts, Byalo Pole, 21.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- A. ambusta ([D. & S.]) SW BG, Kresna Gorge, 13.ix., two; East Rhodopi Mts, Boroslavitz village, 20.ix., one resting on a wall; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.
- Cryphia ochsi Boursin SW BG, Kresna Gorge, 13.ix., four at sugar; SW BG, Melnik, 14.ix., one at sugar; East Rhodopi Mts, Studen Kladenetz, 18.ix., one at sugar.
- C. rectilinea (Warren) SW BG, Kresna Gorge, 13.ix., one.
- C. seladona (Christ.) subsp. burgeffi Draudt SW BG, Kresna Gorge, 13.ix., two; East Rhodopi Mts, Studen Kladenetz, 18.ix., three.
- C. amasina (Draudt) East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., one. Both worn.
- Amphipyra livida ([D. & S.]) SW BG, Melnik, 14.ix., one at sugar; SW BG, Rozhen, 15.ix., one at sugar.
- A. tetra Fabr. East Rhodopi Mts, Studen Kladenetz, 18.ix., one at sugar.
- Mormo maura (Linn.) East Rhodopi Mts, Studen Kladenetz, 18.ix., one at sugar.
- Anthracia eriopoda (H.-S.) SW BG, Kresna Gorge, 13.ix., one worn specimen at sugar.
- Polyphaenis subsericata (H.-S.) SW BG, Kresna Gorge, 13.ix., eleven; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two.
- Thalpophila matura (Hufn.) SW BG, Kresna Gorge, 13.ix., three; East Rhodopi Mts, Studen Kladenetz, 18.ix., several; East Rhodopi Mts, Momina Skala Chalet nr.

Madzharovo, 19.ix., two; East Rhodopi Mts, Byalo Pole, 21.ix., several; Black Sea coast, Arkulino nr. Primorsko, 22.ix., two; Black Sea coast, Belija Briag nr. Balchik, 23.ix., two inside hotel, one at light.

Phlogophora meticulosa (Linn.) - SW BG, Melnik, 14.ix., one.

*Mycteroplus puniceago* (Boisd.) – Black Sea coast, Belija Briag nr. Balchik, 23.ix., 29 inside buildings.

Luperina dumerilii (Dup.) – East Rhodopi Mts, Studen Kladenetz, 18.ix., two; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two; East Rhodopi Mts, Meden Buk, 20.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., six.

L. rubella (Dup.) – SW BG, Kresna Gorge, 13.ix., two; Black Sea coast. Arkulino nr. Primorsko, 22.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.

Gortyna flavago ([D. & S.]) – East Rhodopi Mts, Byale Pole, 21.ix., two.

Sesamia nonagrioides (Lef.) – SW BG, Kresna Gorge, 13.ix., one; SW BG, Rozhenski Monastery, 15.ix., one inside building.

Hoplodrina ambigua (([D. & S.]) – Sofia town, 12.ix., one; SW BG, Melnik, 14.ix., several; BG, Rozhen, 15.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., several, East Rhodopi Mts, Monina Skala Chalet nr. Madzharovo, 19.ix., several; East Rhodopi Mts, Meden Buk, 20.ix., three; East Rhodopi Mts, Byale Pole, 21.ix., several; Black Sea coast, Arkulino nr. Primorsko, 22.ix., two.

Spodoptera exigua (Hübn.) – SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one; East Rhodopi Mts, Meden Buk, 20.1x., two.

Caradrina flavirena (Guen.) – SW BG, Kresna Gorge, 13.ix., one; SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one.

C. clavipalpis (Stdgr.) – Sofia town, 12.ix., one.

Praestilbia armeniaca (Stdgr.) – SW BG, Kresna Gorge, 13.ix., ten males; SW GB, Rozhenski Monastery, 15.ix., several males inside buildings; East Rhodopi Mts, Byale Pole, 21.ix., one female, two males; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one male.

Helicoverpa armigera (Hübn.) – SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.

Metachrostis velox (Hübn.) - SW BG, Melnik, 14.ix., one.

Eublemma ostrina (Hübn.) – SW BG, Melnik, 14.ix., one.

Emmelia trabealis (Scop.) - Sofia town, 12.ix., one.

Acontia lucida (Hufn.) – SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one.

A. urania (Friv.) – East Rhodopi Mts, Byalo Pole, 21.ix., one.

Nycteola siculana (Fuchs) – SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.

N. asiatica (Kroul.) – East Rhodopi Mts, Studen Kladenetz, 18.ix., one.

*Pseudoips bicolorana* (Fuessly) – East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., one.

Euchalcia consona (Fabr.) - East Rhodopi Mts, Byalo Pole, 21.ix., one.

Diachrysia chrysitis (Linn.) – Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.

Macdunnoughia confusa (Steph.) - Black Sea coast, Arkulino nr. Primorsko, 22.ix., one.

Autographa gamma (Linn.) – SW BG, Melnik, 14.ix., one; East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one; Black Sea coast, Arkulino nr. Primorsko, 22.ix., one; Black Sea coast, Belija Briag nr. Balchik, 23.ix., one.

*Trichoplusia ni* (Hübn.) – East Rhodopi Mts, Byalo Pole, 21.ix., one. *Abrostola tripartita* (Hufn.) – SW BG, Kresna Gorge, 13.ix., one.

## THE PAUPER PUG VERSUS FLETCHER'S PUG EUPITHECIA EGENARIA H.-S. (LEP.: GEOMETRIDAE)

BERNARD SKINNER

5 Rawlins Close, South Croydon, Surrey CR2 8JS.

THIS PAPER WAS prompted by a short article by Gerry Haggett which appeared recently in Newsletter No. 49 of the Norfolk Moth Survey.

English names for butterflies is a time-honoured tradition, but not so for moths. Eminent lepidopterists such as Barrett, Buckler, Tutt and others were content to produce their great works without the embellishment of vernacular names and I am sure furnishing the microlepidoptera with Heslopean names as in the recently produced index to Tutt's Hints would cause the Great Man to turn in his grave. Today, however, the reverse is true and I recall some years ago when preparing my identification guide (Skinner, 1984) that the original publishers insisted that not only every species should have a vernacular name, but, as in South, it should take precedence. The overwhelming desire to see my book in print and the vision of possible royalties ensured that my scientific convictions were suppressed. This involved contacting the original captors of new species to Britain, soliciting English names, but at the same time tactfully ensuring that the names chosen were not too outrageous. The other problem faced was where two common names existed and in this decision I passed the buck and followed Bradley and Fletcher (1979).

Returning to the Pug: *E. egenaria* was first reported in Britain by Robin Mere (Mere, 1962) who, as was his prerogative, suggested Fletcher's Pug as the common name. Had Bradley and Fletcher gone along with this the present confusion would not have arisen. However in their wisdom they elected to use Pauper Pug. Haggett suggests modesty may have been the reason behind this choice, but I suspect these two learned authors, well versed in the complicated rituals of zoological nomenclature accepted the name coined in Heslop (1947), for reasons of priority. The name which is derived from the Latin is sensible enough, although the motives for Heslop

to include this species in his list were undoubtedly misguided. However the association between a common and scientific name had been made and there are many names in use today with equally absurd and bizarre origins. Following Bradley and Fletcher's initial decision Pauper Pug has been used in every publication listing *egenaria* including Newton (1984); Skinner (1984); Shirt (1987); Brooks (1991) and Emmet and Heath (1991). Only in Horton (1994) and Haggett (1981) are both English names cited and even in the latter, despite the author's personal convictions, Pauper Pug is given prominence.

At this stage the reader might well ask what the fuss is all about and reason that if one of the names is in common usage why not stick with it. Unfortunately chaos still reigns as in the 1989 updated version of Bradley and Fletcher's indexed list of *British Butterflies and Moths* the vernacular name Fletcher's Pug has been resurrected.

Now although I am not bothered which name is eventually accepted, a new updated edition of my identification guide is in preparation and a choice of name has to be made. I have decided to cringe away from my responsibilities and leave such a monumental decision to others. If this referendum is popular, other great contests for supremacy could be promoted between contenders such as the American Wainscot and White-speck, Blue Underwing and Clifden Nonpareil, Powdered Wainscot and Reed Dagger, etc., etc.

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#### **BOOK REVIEWS**

**British Hoverflies: second supplement** by **Alan E. Stubbs.** British Entomological and Natural History Society, 1996. 64pp. Paperback. £6 (£4 to BENHS members) plus 50p postage and packaging (£1 overseas). ISBN 1-899935-02-9. Available from BENHS Sales Secretary, 17 Gainsborough Close, Cambridge CB4 1SY (cheques payable to British Entomological and Natural History Society).

There can be few British entomologists — even amongst the Lepidoptera specialists who comprise the bulk of the readership of the *Entomologist's Record*, who have not at least heard of "the hoverfly book" (Stubbs, A.E. and Falk, S.J., *British Hoverflies: an illustrated identification guide*. BENHS, 1983). It is imagined that all British readers at least are members of the BENHS and so will have received all the advertisements (those who are not are welcome to write for a membership application form). That book effectively made a potentially difficult group of insects easy more or less overnight, and proved enormously popular, elevating hoverflies to the level of butterflies and dragonflies in terms of general popularity. The initial print run of 1000 soon sold out and another 1000 were printed, incorporating a 15-page supplement (also sold separately). These too, sold out rapidly and a further 500 copies were printed earlier this year.

Inevitably, however, when a group of insects is made "easy", more entomologists will take up their study and it is only a matter of time before new problems are encountered and new species discovered as a result of this extra effort. Alan Stubbs is to be congratulated for his diligence in accumulating all of the new data which have arisen and for his production of this most necessary supplement. Fifteen new species to Britain have been found since 1983 and these are all included in the second supplement. Revised keys are presented to the genera Platycheirus and Sphaerophoria; remaining new species have been treated by revising just the relevant parts of the existing keys. This is a wholly satisfactory approach. A key to females of the genus Neocnemodon is also provided for the first time. Problems encountered using the original keys are addressed and couplets revised or comments made. Brief notes on all the new species and some existing problem species are provided. The introductory chapters are also added to and a new and expanded bibliography of literature references is provided. A number of name changes have also occurred and Alan has incorporated some of the more important amongst these here, though not all by any means. Avoiding the more contentious ones which are likely to remain in a state of flux for some while yet is perhaps a wise move and in any case this is not really the place to publish a revised British checklist.

Some problems may still exist, inevitably, particularly where the species involved is known in Britain from only a very few specimens (the key is,

quite properly, based on British material). I accept that the key is designed for entomologists across the whole range of ability and experience to be able to identify specimens encountered in Britain, but the very inclusion of so many new species to Britain in this work should surely suggest caution. For example, Epistrophe flava is a common European species (incorrectly referred to as E. melanostomoides in Van der Goot (1981)), which is present in France and Holland and which could conceivably turn up in Britain. Usingscutellar hair colour to separate the two new (to Britain) species E. melanostoma and E. ochrostoma from existing E. nitidicollis will not allow this species to be detected. It would have been better to use the microtrichial characters of the basal cells of the wings. I cannot really see that this would render the key particularly more difficult to use. I am also a little disappointed to discover very little additional information on the separation of members of the less than easy genus Cheilosia. Almost all the people I meet who "do" hoverflies (including me) have abandoned the original key and are using an nth generation photocopy of Steven Falk's provisional key that was originally handed out at a hoverfly workshop in the Liverpool Museum or else are desperately seeking to obtain one.

There may, of course, be other problems with other species, but this is not in any form a criticism. Taxonomy is an ever-expanding science and it is unlikely that there can ever be a "final solution" to these difficulties.

The supplement is not really a "stand alone" publication but is an absolutely essential supplement to the existing book. The book is also now available again, price £26 (£18 to BENHS members) plus £2.80 p&p (£3.50 overseas), from the BENHS Sales Secretary at the address above.

Colin W. Plant

Keys to the insects of the European part of the USSR. Editor-in-Chief G.S. Medvedev. Volume 3, Hymenoptera part 5, edited by V.I. Tobias. XVI plus 507 pages, 189 text figures, hardbound. ISBN 1-886106-24-X. £95. Science Publishers Inc., North Lebanon, USA, 1995.

Part 4 of the Hymenoptera in this long series was reviewed earlier in this volume, on pages 98-99 and there seems little point in repeating the general comments on the series made there. Part 5 completes the coverage of the family Braconidae with its treatment of the subfamilies Opiinae and Alysiinae (parasites of Diptera), and also deals with the aphid parasites which are the Aphidiidae.

Information is provided in some detail about the vast majority of species in these groups recorded in the fauna of the former USSR and in Western Europe. It also provides complete lists of their hosts, geographic distribution and synonymy. Keys are provided for 884 species in 69 Braconid genera, and 164 species in 31 genera of the Aphidiidae. One new genus, two new subgenera and 38 new species are described.

As with earlier volumes, the book is well laid out, the language readable and the illustrations clear and well-defined. The keys appear to work well. This is not a book for the pusillanimous, nor for the impecunious, but it is one to which every serious student of the Hymenoptera: Parasitica should have ready access via universities, libraries and the like.

Colin W. Plant

The butterflies of Tunbridge Wells and district by Ian C. Beavis. 85pp, 8 colour plates. Paperback, A5. ISBN 1-898262-00-4. Tunbridge Wells Museum and Art Gallery. 1996. Available by post from the museum at Civic Centre, Mount Pleasant, Royal Tunbridge Wells, Kent TN1 1JN at £5.50 (inclusive of post and packaging). Cheques should be made payable to Tunbridge Wells Borough Council.

A local butterfly book such as this is of great interest to the local person, but probably of minimal interest to an outsider who never visits the area studied. However, this likely fact in no way detracts from the importance of such works. Conservation of insects such as butterflies depends, as in so many other cases, on conservation of their habitats (as well as control of pollution and a few other factors), so it makes sound sense that conservationists, local politicians, local planners and others should have access to sound information concerning their own geographical area of responsibility. Ian Beavis' booklet is, in that respect, a very important contribution to butterfly conservation in particular and, consequently, to insect conservation in general. It should go a long way towards alleviating the "But I didn't know it was there" syndrome.

The book is relatively slim, yet contains all the information needed to make it a useful addition to the bookshelf. Introductory chapters cover the present status of local butterflies, the study of local butterflies, the history of local butterflies and local butterfly habitats, before launching into the species accounts which are readable and informative. The inclusion of eight coloured plates in a local list is a surprise – especially in view of the high cost of such a production. Five full pages are dedicated to pinned specimens (in itself, something of an innovation in modern butterfly books); the remaining three are dedicated to living specimens at the rate of four per page. This presents what I regard as a healthy balance between the scientific need to collect butterflies in some situations and the pleasure of seeing butterflies flitting about in the lanes.

If you live outside Kent you may simply decide this is not a book for you, but if you live outside Kent and are still contemplating what to do with all your accumulated local butterfly data, you may find that this relatively inexpensive book provides a source of inspiration.

Colin W. Plant

### BENHS ANNUAL EXHIBITION

(British Entomological & Natural History Society)

Saturday 2nd November 1996

Sherfield Room, Imperial College, South Kensington, London SW7 11am - 5pm ADMISSION FREE

Members and non-members alike are invited to bring exhibits to illustrate their entomological discoveries for 1996 and earlier years. This major event in the entomological calendar is as much a social gathering as a scientific meeting. It is an excellent opportunity to meet other entomologists from all over Britain and should be of particular interest to beginners in entomology as well as to those with some experience. As always, a table will be provided on which unidentified specimens may be placed for identification by the experts during the day.

For further information of membership of BENHS, write to the Membership Secretary, BENHS, The Pelham-Clinton Building, Dinton Pastures Country Park, Reading, Berkshire RG10 0TH.

### THE ENTOMOLOGIST'S RECORD

#### AND JOURNAL OF VARIATION

(Founded by J.W. TUTT on 15th April 1890)

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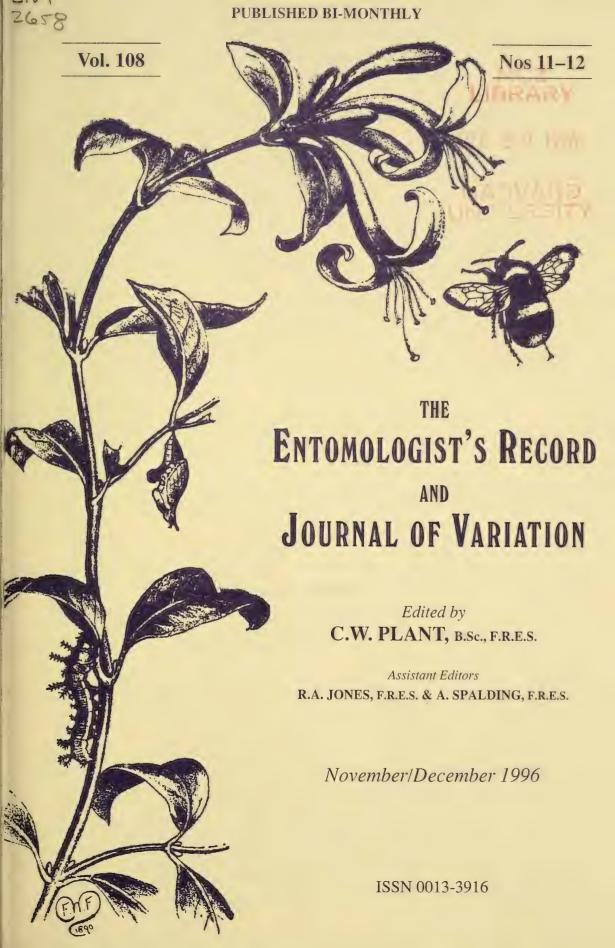
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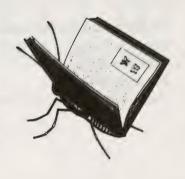
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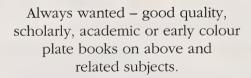
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## HYPANARTIA LETHE FAB., SSP. DEMONICA HÜBNER. 1821 (LEP.: NYMPHALIDAE): A SYNONYM DESIGNATED A SUBSPECIES

#### BRIAN K. WEST

36 Briar Road, Dartford, Kent DA5 2HN.

THIS SPECIES has a wide geographical range in Central and South America from Mexico to Argentina, and also Trinidad. I have encountered it commonly, usually at flowers, at Biscucuy, Portuguesa, Venezuela; Foz do Iguaçu, Paraná, Brazil; Puerto Iguazú, Misiones, and San Salvador de Jujuy, Argentina. At Pto. Iguazú it is attracted particularly, together with the closely related *H. bella* Fab. and numerous other species, to a ragwort (*Senecio* sp.) growing five to six feet in height along roadsides. Recently, I noticed a small, but constant difference between specimens from Venezuela and those from Misiones, Argentina, but neither DeVries (1987) nor D'Abrera (1987) mention subspeciation, nor is it demonstrated in the National Collection of the British Museum (Natural History).

The difference relates to the forewing subapical fascia normally composed of a costal blotch, a similar central blotch either narrowly separated from it, or coalesced with it, and a smaller, well-separated posterior spot; in Venezuelan specimens brown, but in specimens from Pto. Iguazú and Foz do Iguaçu the small posterior spot is white. The National Collection contains a segregated series of specimens based upon wing dimensions from the southeastern part of the species' range, all of which possess the white spot, and from Andean Argentina, which do not. The wings of all these specimens exhibit some elongation anteriorly of the forewing relative to the hind margin, giving the wing a less square and compact appearance; this is quite noticeable in the Andean specimens. It is interesting to note that this trend is also present, but to a much greater degree, in *Anartia amathea* L., another common Nymphalid with a similar geographical range.

Fabricius (1793) named and described this species; Hübner (1821) figured it in colour, naming it H. demonica and Hemming (1964) selected one of the specimens figured to represent the lectotype of H. demonica. Fabricius' description refers to a black and brown insect, but Hübner's figure clearly portrays the form with the white spot.

I designate the form illustrated by Hübner as subspecies *demonica* Hb. of *Hypanartia lethe* Fabr. (Plate F, Fig. 1). It is characterised by a white posterior spot on the forewing subapical fascia; in addition the forewing is relatively longer anteriorly in relation to the hind margin compared with *H. lethe lethe* (Plate F, Fig. 2). Specimens from Andean Argentina which possess this character, but not the white spot, I exclude: it is a variable character representing a cline in the species.

Known distribution of subspecies demonica: Brazil – states of Bahia, Minas Gerais, Espirito Santo, Rio de Janeiro, São Paulo, Paraná:

south-eastern Paraguay; Argentina – Misiones province. This list is based on the comprehensive series of *H. lethe* in the National Collection, and the much larger series in the Rothschild Collection.

In Trinidad and the coast of Venezuela opposite, another variation in the subapical fascia occurs in which the posterior spot tends to be very small, and in one specimen from Trinidad in the Rothschild Collection it is obsolete. The not very good coloured illustration of a Trinidad specimen in Barcant (1970) illustrates this, and the presence of this tendency on the mainland opposite Trinidad suggests that the cause is not from insularity only.

Finally, it is interesting to note that the coloured photograph in D'Abrera (1987) portrays ssp. *demonica*; it is stated to be of a specimen from south Brazil.

#### Acknowledgements

I wish to thank Mr P. Ackery and Mr J. Reynolds of the British Museum (Natural History) for their help and granting me permission to study the National and Rothschild collections, Mr A. Nield, author of the forthcoming *Butterflies of Venezuela* for his comments, the staff of the Entomological Library for their generous assistance regarding the relevant literature and Mr David Wilson for kindly photographing the specimens of the two subspecies.

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### Correction to Microlepidoptera Review of 1994

Having recently read the Pterophoridae section of the Microlepidoptera Review of 1994 (antea: 193), I realise that I have made an error. My record of 1494 Capperia britanniodactyla (Gregs.) is in fact a misidenti-fication of 1497 Amblyptilia acanthadacyla (Hb.). The incorrect record was originally submitted to A.M. Davis for the Pyraloidea Recording Scheme by me. However, when the determination was later corrected by Ken Bond I confess to having forgotten to inform Mr Davis and subsequently the incorrect record was passed on to the authors of the Review. The record of C. britanniodactyla for Ballaglass should be deleted.— G.D. Crane, 8 Kissack Road, Castletown, Isle of Man.

## Hazards of butterfly collecting – Tracking down a *Cymothoe* – Oban Hills, Nigeria, 1995

We left the little village of Mkpot early one morning in late March 1995. It was to be the "swanwalk" of a month in the Oban Hills Division of the Cross River National Park in eastern Nigeria. During the six days at Mkpot I had chalked up nearly 300 species of butterflies in what must have been one of the best entomological week's of my life.

We had entered Mkpot by the southern route, a rugged 23km trek. We were now heading north to Itaka, another 23km. Now, 23km may not seem like much, but in a tropical climate when doubling back to collect butterflies on a rough track, it is a good seven-hour walk. Fortunately the Oban Hills are so pristine that you can have a refreshing drink from any of the streams or rivers that have to be forded on the way.

Butterflies were not quite as numerous on the walk out as they had been around Mkpot, though several new to Nigeria were taken, the most interesting of which was *Euphaedra imitans* Holland. Instead of having the usual green shades of the *Euphaedra* Hübner it is black with red and white markings, being an excellent mimic of highly toxic day-flying moths. Not just an excellent mimic in terms of colour pattern, mind you, but also in terms of behaviour, which differs from other non-mimetic members of the genus. OK . . . that is my subjective judgment, and I would actually like to quantify it by videos, but please take my word for it.

After five hours of walking we exited the national park proper and started tramping through cocoa-plantations and open agricultural lands. This is a double nuisance: (1) the number of interesting butterflies drops precipitously; and (2) the temperature notches up another five degrees. An hour later we reached a lovely little forest in very good condition. Just where our by now fairly substantial path joined another substantial path I caught a splendid large orange-yellow *Cymothoe* that I could not recognise. A few minutes later my assistant, Emmanuel Bebiem, arrived, having caught what seemed to be the female. Problem! We needed a series of this thing, but we also needed to be in Itaka by 1600 hours to be sure of arranging accommodation and a boat out the next day. This gave us just over half-anhour, but no more specimens of the *Cymothoe* were seen.

Next day, back at base camp in Calabar it became clear that the species was new to Nigeria, and there was nothing resembling it in D'Abrera's book on Afrotropical butterflies. New species? Surely not! Beautiful, larger than any British butterfly . . . too much to hope for.

Nothing similar was in the collections of the Natural History Museum, London. Nothing similar was in the Musée Royal d'Afrique Centrale in Tervuren, Brussels, nor in the Allyn Museum in Sarasota. There were none in the collection of my friend Steve Collins in Nairobi – whose collection of African butterflies is beginning to approach that of the largest public

collections. None of my correspondents with knowledge of Cameroun had a clue. Nothing like it in the pictures in Seitz.

I returned to Nigeria in November/December. Emmanuel Bebiem had sharpened his skills with a net, and I was also joined by Peter Namakana Walwanda, an ace collector for Steve Collins. We went back to Mkpot, where we had an even better week than last time – three good nets! The total for two weeks in Mkpot rose to nearly 400 species.

We headed for Itaka at the crack of dawn. I wanted to have three hours in the small forest just beyond the park limits. On the way out we caught E. imitans in exactly the same spot as in March. Was this an omen? I knew we had reached the exact spot when I saw the merging of the two tracks. At that very moment, I took a female of the desired booty . . . just where I caught the male nine months earlier. "Well guys, it's here! . . . let's get going!". We criss-crossed the area for three hours. None were seen. We took a rest. I set out first. While the others were getting up, a large butterfly passed me. A male Cymothoe flew towards Peter and Emmanuel, an easy catch. With a sickening crunch, their nets intermeshed as they both struck on the narrow path, and the prize flew off. They were suitably dejected, though basically lacking in culpability.

Back in London, a small footnote in Arnold Schultze's (1920) splendid report on the Africa-expedition led by Adolf Friedrichs, Herzog zu Mecklenburg in 1910/1911, gave the final clue. It might not be a new species, it might be *Cymothoe hesiodina* Schultze, 1908. I rushed to the Royal Entomological Society to copy Schultze's paper. And sure enough . . . through the meticulous German description gradually emerged my male.

My species was not new to science. Schultze personally caught the single male holotype on the Upper Cross River in Cameroun, just over the Cameroun border, not far from mine. The species has never been illustrated, and the female was unknown. But Schultze's type was destroyed in the firestorms in Hamburg during WWII, and my male and two females seem to be the only ones now known. So here it is – yet another scoop for the *Entomologist's Record and Journal of Variation* – the male (Plate F, Fig. 3) and the previously unknown female (Plate F, Fig. 4) of *Cymothoe hesiodina*. – TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 8PL.

#### Stolen cabinet drawers

While I can well believe that the thief who stole a cage containing several hundred stick insects from the Department of Zoology here in Cambridge many years ago may well have been an entomologist, perhaps a dealer intending to offer them for sale, I am of the opinion that cabinet drawer contents, be they microlepidoptera or even a valuable Large Copper, are of

no interest to the thieves and that the demands of the antique trade is the most likely inspiration for such thefts and that the insects themselves will be thrown away. Over the past few years I have attended numerous auctions, antique fairs, flea markets and car boot sales. At the auctions whenever a cabinet drawer or other glass-topped box turns up there is spirited bidding and even a case containing mainly pins, dust and Anthrenus larval skins rather than fine and attractive lepidoptera makes a very good price. So where do these drawers end up? Why, in the antique fairs and shops where they are used to display jewellery, small porcelain items, silver and other knickknacks which seem to be so collectable nowadays. I have even seen them used to display small, fragile and/or valuable antiquarian books. They make ideal and attractive display cases for such small valuable items and the glass of course protects the contents form light-fingered people who also attend these antique fairs and boot sales. Might I suggest that it might be a good idea for all cabinet drawers to be incised underneath with the owner's postcode. This is already suggested by the Police for valuable items and at least might lead to their recovery, if not of the specimens.— Brian O.C. Gardiner, 2 Highfield Avenue, Cambridgeshire CB4 2AL.

#### Stolen cabinet drawers

I was much encouraged by your correspondent's note (P.R. Shave, *antea*: 146) for, whilst I was resigned to saying goodbye to the various books which were stolen just over a year ago, the dispersing of cabinet drawers and contents is not so straightforward.

On 17 July a modern-day miracle occurred. A telephone caller enquired if I had lost any "boxes of butterflies" and then went on to relate his discovery at 10.30 on a summer's evening of a large number of carefully wrapped packages hidden beneath some shrubs at the side of a public footpath!

He had very recently moved into a nearby upstairs flat and with no little effort and some help had carefully found space among his unsorted household items for all this additional material. Having no telephone or car it says much for his public spiritedness that he pursued tracing me, showed my wife and myself the actual find spot and finally took us to where my now unwrapped drawers could be inspected.

There may be other facts yet to emerge when subsequent enquiries are made, but at this stage I would like to thank our editor for publicising the 1995 burglary and the many friends who wrote with words of support.

The collection had suffered only slight damage but its whereabouts during the many months prior to its discovery under those bushes is still unresolved. Nevertheless, have so many species ever been discovered under so few bushes? It was a memorable night!— BRIAN BAKER, 25 Matlock Road, Caversham, Reading, Berkshire RG4 7BP.

### Notes on the larvae of *Nola cucullatella* L., 1758 (Lep.: Nolidae) on Wanstead Flats, east London

Between 2.v.1996 and 13.v.1996, *Crataegus* bushes were beaten for Lepidoptera larvae, the most frequent species being *N. cucullatella*. The sixteen bushes beaten yielded no less than 54 larvae, with 13 being the maximum number noted on a single plant. The majority of the larvae were in 3rd instar.

Despite the abnormally cool weather in May, 1.8°C below average (deviation from 1961-1990 norms, Meteorological Office, London), a return visit to the area for the same purpose on 27.v.1996, yielded one larva of this Nolid species, out of the four *Crataegus* bushes beaten. The probability that all larvae had pupated, was evidenced by another individual larva being beaten from hawthorn, out of ten bushes, visited at Stratford cycle track, 29.v.1996. Assuming that the moth was also found at the same density in Stratford as on Wanstead Flats over the month of May, the larvae must have developed quickly despite the weather conditions, as an initial survey of the hawthorn in Stratford on 26.v.1996, yielded no larvae of any Macrolepidopteran.

Revell (1983, *Nolidae* in *The Moths and Butterflies of Great Britain and Ireland*, eds. Heath, J. & Emmet, A.M., Harley Books, Essex) describes the larvae of *N. cucullatella* as awakening from hibernation in early to mid-April, with pupation occurring in early June.— GARETH E. KING, 25d Windsor Road, London E7 0OX.

### Quedius nigrocaeruleus Fauv. (Col.: Staphylinidae) in Pembrokeshire (Dyfed)

This very local frequenter of moles' nests appears to have been recorded more often in eastern England than elsewhere in the British Isles; and I have seen no record for Wales, though such may well exist. It may be advisable, therefore, to mention that I took a male (later checked by the aedeagus) under a stone on sandy ground at Freshwater West, near Milford Haven, in the third week of August as long ago as 1934. I have met with the species only once besides: a female from Higham Marshes, West Kent, 30.ix.1951, also under a stone. Many moles' nests do not produce this beetle. Joy (1913, Ent. Mon. Mag. 49: 276) points out that in Q. nigrocaeruleus the fine strigose lines on the thorax are abruptly bent in the mid-line, whereas in the closely similar and common Q. mesomelinus Marsh. they pass straight across it. If constant, this could prove a useful distinction in doubtful cases, especially for females.— A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

# NOTES ON MANIOLA JURTINA L. SSP. CASSITERIDUM GRAVES AND PARAGE AEGERIA L. SSP. INSULA HOWARTH IN THE ISLES OF SCILLY, AND MANIOLA JURTINA FROM LUNDY ISLAND

#### RUPERT BARRINGTON

101 Egerton Road, Bishopston, Bristol BS7 8HR.

### The Scilly Isles races

M. JURTINA is a variable species throughout its range in the British Isles and the status of the three named subspecies separated from ssp. insularis Thomson (the form found in England, Wales and much of Scotland) has been questioned (Emmet & Heath, 1989). These races are ssp. iernes Graves (Ireland), ssp. splendida White (parts of Western Scotland and some Western Isles) and ssp. cassiteridum Graves (Isle of Scilly). It is suggested that jurtina exhibits a tendency towards larger and more colourful forms on the Atlantic coast and that the named races are simply the most extreme expressions of a cline rather than being separate subspecies.

Subspecies *cassiteridum* is particularly characterised by having the underside, especially of the hindwings, significantly speckled due to strong development of the small, dark striae that are found on all the British races. It also tends to have more upperside fulvous markings in both sexes than ssp. *insularis* from the mainland.

P. aegaria ssp. insula Howarth (Plate G, Figs. 1 - 4) seems to be generally recognised as a separate and entirely distinguishable race found only on the Isles of Scilly, and is more akin to the Continental form than those found in the rest of its British range. The most noted difference is that the pale spotting, which is creamy or white on the mainland, is of a distinctly orange shade in insula.

Both species were generally common on the inhabited islands, and of the same form on all of them. It is said that specimens of jurtina from the southwest peninsula of England may be almost indistinguishable from those on the Scilly Isles (Emmet & Heath, 1989). I have not seen the species in this area and so, for present purposes, can only observe that in the Scilly Isles jurting is variable, as it is elsewhere, and some specimens were found which conformed exactly to the description of cassiterideum while others tended more towards the usual mainland form, having a less "speckled" undersurface to the hindwings. However a series of specimens covering this whole range is entirely distinguishable from an equivalent series from Dorset due to the strongly contrasting nature of the underside pattern elements. It was interesting to find two female specimens of ab. fracta Zweiglt (Plate G, Figs. 5 - 6), both extreme, within a few hours of arriving by plane on St. Marys. Specimens as well developed as these examples are very rare and less striking expressions of the form are uncommon. One was spotted feeding from a thistle flower at the edge of a cut hay meadow and the other was flying over a rough cliff-top with many others of its species. The

contrasting pattern of the under-surface of this race makes these aberrations particularly striking. No further aberrations were found despite careful search.

P. aegeria was found both in the sort of partially shaded areas where one might seek it on the mainland and also in much more open areas, such as sunny hedgerows or open expanses of bracken. I found that the upperside of this race generally exhibits more orange spotting than the mainland form, but that this was a variable characteristic and some specimens were very similar to those I would find in Dorset. More consistent was the extension of the pale markings near the base on the underside of the forewings, forming a large pale patch in this region quite unlike the mainland form. This race seems to justify its subspecific status.

### Maniola jurtina L. from Lundy Island

Lundy Island sits at the entrance to the Bristol Channel, about 55 miles from the nearest landfall on the mainland (Hartland Point, Devon). It is a small, wind-swept granite island with a flat plateau top of short grass and heathland, with steep cliffs on all sides. Tree cover is virtually absent except for a small sheltered area at the southern end. With the plateau so level, little protection is available from the wind for the butterfly species that inhabit the island.

I was able to spend a few hours on Lundy on 20 July 1996 and had enough time to make a quick examination of the local population of *jurtina* (which was common in grassy areas), although in the time available it was not possible to examine enough butterflies to draw any firm conclusions about the nature of this race. However a few observations might be of interest. Although, as with any race of *jurtina*, the adults are variable, it does appear that this race may be as distinct from the mainland form as are the other, named, subspecies.

The adults appeared to be noticeably smaller than other races. Emmet & Heath (1989) give the following average wingspans for the different subspecies:

ssp. insularis: male 40-55mm, female 42-60mm

ssp. iernes: male c. 52mm. female c. 56mm

ssp. cassiteridum: male c. 49mm, female c. 53mm

ssp. splendida: male c. 50mm, female c. 54mm

From an, albeit, small sample of adults (four males and seven females) kept for examination from Lundy the average wingspans were: male c. 44mm, female c. 47mm. These specimens are clearly smaller than the other Atlantic races and towards the smaller end of the wide size range given for ssp. *insularis*.

It is interesting to note this small size, particularly in view of E.B. Ford's comments (1945) about races of butterflies on exposed islands. He argues that in such habitats butterflies have repeatedly evolved forms with smaller wingspans, so presenting less surface area to the wind which might easily

blow the butterflies out to sea. He gives, as an example, a very small race of *Argynnis aglaja* that has evolved on the tiny wind and wave-swept island of Flodday at the southern extremity of the Outer Hebrides. A similar argument might apply to Lundy *jurtina*.

As with ssp. *cassiteridum*, the underside markings of the male butterflies were more distinct than in the English race and rather paler on the hindwings. The same description applies to the females, in which the central median band of the hindwings was often very pale. Not enough butterflies were examined to note any definite tendency in the upperside markings of either sex, although from what was seen it is likely that the males generally have a larger expanse of fulvous than the mainland form and that the females have a greater tendency to show fulvous in the forewing "cell" area than in ssp. *insularis*.

### Acknowledgements

I am grateful to Mr David Wilson for photographing the specimens depicted in Plate G.

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# Nola confusalis H.-S. (Lep.: Nolidae) in north-west Kent and Moray.

A specimen of this species visited my garden m.v. light at Dartford on 9.vi.1996, to be followed by another on 11.vi.1996. Chalmers-Hunt (Butterflies and Moths of Kent, sup. in *Ent. Rec.* 74: 79, 1962) states that this moth appears to be extinct in West Kent (VC 16), and this is not contradicted in 1980 in a further supplement, while Plant (*Larger Moths of the London Area*, 1993) confirms its continued absence in the Kent portion extending twenty miles from central London.

The large area of Joydens Wood which lies close to my address has probably retained this moth over the intervening one hundred and thirty years in view of its comparative inaccessibility as a private woodland until the Second World War, and despite partial destruction by the Forestry Commission subsequently.

In view of the apparent scarcity and local nature of the species in parts of Scotland it is perhaps worth noting that I took two specimens at Grantown-on-Spey, Moray on 22.vi.1985, especially as the species is not recorded for the well-worked neighbouring area of Badenoch, Inverness-shire by Harper (*Ent. Rec.* 66: 58), nor by Barbour for Banffshire (*Ent. Rec.* 88: 1) nor for Aberdeenshire and Kincardine by Palmer (*Ent. Rec.* 86: 33) in his excellent review of the lepidoptera of these two counties.— B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

# Halyzia sedecimguttata (L.) (Col.: Coccinellidae) at light in the London suburbs

I was much surprised (and pleased) to find a specimen of this, the Orange Ladybird, sitting on the stand of my mercury-vapour lamp on the night of 25 June 1996 – the sole beetle to put in an appearance at the lamp that night. The species has always been a rarity to me and in fact I had met with it on two occasions only, once in Scotland and once in England: a single specimen in woodland at Grantown-on-Spey, probably off aspen, 30.vi.38; and a few at Moccas Park, Herefordshire, off birch, early June 1954. Although in reality so distinct, chiefly by the broad pellucid explanate borders of pronotum and elytra, I have known it to be occasionally confused with the local but far more common *Calvia 14-guttata* (L.), which is smaller and more convex with margins normal. Such mistakes may possibly arise from depending on a count of the pale elytral spots, which can however be rather deceptive, and are only excusable if one happens to be unacquainted with *H. 16-guttata*.

The definitive account of this ladybird, its biology and present status in Britain, is a highly interesting paper by M.E.N. Majerus and Z. Williams (1989, *Ent. Gaz.* 40: 71-8). They point out that it is "one of our least known and least recorded species", but that the Cambridge Ladybird Survey has shown it to be "very much more common than previous records had indicated". This probably reflects a real increase consequent on the extension of its habitat to sycamore over most of its range, a remarkable fact which the authors are the first to record. They note that this is one of the few mildewfeeding ladybirds.

The Charlton occurrence would appear to be the first to be recorded in the immediate environs of London, and perhaps the fourth at mercury-vapour light. It suggests that *H. 16-guttata* is breeding somewhere in the vicinity, probably on sycamore. Fowler (1889, *Coleoptera of the British Islands*, 3: 166) gives five records for what he called the London district, but three of the localities are in Surrey and two in East Kent. Majerus and Williams (pp. 74-5), listing finds during the period 1985-87, include only one for Kent and one (of 74 specimens) for Surrey.— A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

# The second brood of *Euproctis similis* (Fuessly) (Lep.: Lymantriidae) in 1995

With reference to Dr Neville Birkett's records of this species on 14 and 16 October at Grange-on-Sands, Cumbria (*Ent. Rec.* **108**: 132), I can add a record of a fresh male in my trap at Saffron Walden, Essex on 9 October 1995. The weather note in my entomological diary reads "Scorching day – stripped to the waist. Dry, calm night, temperature 62-54°F." The species came to my trap on 16 nights between 8 July and 1 August, but I did not see it again until October.— A.M. EMMET, Labrey Cottage, Victoria Gardens, Saffron Walden, Essex CB11 3AF.

# EUROLEON NOSTRAS (FOURCROY, 1785) (NEUR.: MYRMELEONTIDAE) CONFIRMED AS BREEDING IN BRITAIN

RICHARD COTTLE, MIKE EDWARDS\* AND STUART ROBERTS

\*Lea-side, Carron Lane, Midhurst, West Sussex GU29 9LB.

DURING AN invertebrate survey of Suffolk Sandlings Heaths between 6 and 9 August 1996 we were intrigued to notice several small conical pits at the base of a small cliff formed by a partially buried root at Walberswick National Nature Reserve. Being aware of the recent discovery of adults of the ant-lion *Euroleon nostras* at Minsmere (Mendel, *antea*: 1-5) we decided to investigate the pits further and were delighted to uncover a larval ant-lion from the first one (Plate I, Fig. 6).

Further searches in this area revealed at least three hundred pits on a low bank about two hundred metres long. All were facing approximately south and most were at the base of small cliffs (Plate I, Fig. 5), although many were under overhanging heather. Pits were not found where the bank was heavily shaded by trees. Pits tended to occur in small aggregations and, from the sharp edges of the pits, most would appear to have been occupied. No pits were seen elsewhere on the reserve, although searches several days later revealed a small aggregation on Walberswick Common immediately to the east.

The next day was spent at Minsmere itself; here pits were found immediately alongside the entrance road in the vicinity of the root-plate of a large wind-blown tree, some pits were quite high up on the root-plate and some were larger than others. Further pits were found in the vicinity of the toilet block mentioned in Mendel (op. cit.). However, the real surprise was finding in excess of a thousand pits on a south-facing sandy bank amongst heather and the root-plates of wind-blown pines. This area had been cleared of pine several years earlier and this had obviously made excellent habitat for the ant-lions. Only one adult was disturbed from the heather during half-an-hour's searching during the mid-morning by three people, despite the large population clearly present.

Pits were made on all surfaces open to the sun, including out on the flat, but the majority were again associated with small cliffs. The pits ranged in size from one to four centimetres diameter. Some pits were at the very top of root-plates. No pits were found in north-facing or heavily shaded locations in this area.

Further pits were found associated with wind-blown root-plates in a recently coppiced area nearer the visitor centre and a few were found under over-hanging bracken alongside the entrance road. In all locations it was essential that the sand was loose, but not regularly disturbed; the presence of rabbit burrows under a root-plate meant that there were no pits present.

We returned to the original root-plate at 18.00 hours the following day in order to take some photographs and were pleased to find a newly emerged adult hanging up drying its wings. We quickly discovered twelve further adults all hanging up drying their wings and, whilst we watched, one emerged from the loose sand with its wings all crumpled up. This individual proceeded to climb up the root-plate and, having found a hanging place, pump up its wings. There was quite a strong breeze blowing and the adults were being shaken all the time, but showed no inclination to move from their chosen place. One further adult was found in which the wings and abdomen had not extended properly, echoing the specimen found by the Welchs in 1994 (Medel, *op cit.*). By 21.00 hours all but three of the twelve seen had disappeared; one of these was the deformed one and the last two flew off within half an hour. The next morning there was no sign of any adults in the vicinity of the root-plate, as indeed had been the situation on the first morning.

Further searches during the survey period revealed a large population on nearby Dunwich Heath, with pits under heather bushes alongside the tracks over the heaths, out on the open sand and at the base of small cliffs. Once again, no pits were found in north-facing or heavily shaded situations. A further small population was found on Blaxhall Common, some fifteen kilometres to the south-west of Minsmere.

Overall, we estimate having seen over three thousand pits during four days' survey. The majority of these were found during searches for other insects and were not the result of targeted searching. We are in no doubt as to the long-established nature of these populations. Considering that we knew ourselves to be within large populations but only found so few fully adult specimens (which could easily have been passed over as damselflies) we are not surprised that records have been sporadic; it is much more productive to know something about where to look for larval pits and search for these.

# Acknowledgements

We thank English Nature, Suffolk Wildlife Trust and The Royal Society for the Protection of Birds for their support of the above survey, David Sheppard, Cliff Waller (English Nature), and Richard Wilson (RSPB) for their excellent assistance and guidance during the survey, and Doug Merrick for providing photographs featured in Plate I.

# SOME OBSERVATIONS ON LARGE BLUE MACULINEA VAN ECKE 1915 BUTTERFLIES (LEP.: LYCAENIDAE) IN THE PYRENEES

### ANDREW WAKEHAM-DAWSON

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I HAVE FOUND four types of adult large blue *Maculinea* butterfly in the Pyrenees. The first two did not cause any identification problems:

- 1. Maculinea arion arion L. (Plate H, Fig. 1). Bright blue with well-defined black markings, flying in July/August 1990 and 1993 in the mountainous Prades region of the Eastern Pyrenees (900 to 1500m). The species was common in the area and in 1993 a number of aberrantly-marked butterflies was seen. One particularly interesting male was heavily suffused with dark grey on the top of its wings and had extremely elongated black marks on the underside. Manley & Allcard (1970) illustrate a similar but slightly less extreme aberration from Spain (Plate 31, fig. 2).
- 2. *M. arion obscura* Christ. Dark blue with a heavy suffusion of grey and poorly defined black markings flying in July 1991 in similar habitat to *arion arion* (above) in the Benasque Valley (Spanish Central Pyrenees).

However, I have also found two forms (subspecies?) of *M. alcon* that are not easy to classify with respect to each other. They have similar male and female genitalia, but are very different in size, wing shape and wing colour:

- 3. M. alcon subsp? Males small and light blue (Plate H, Fig. 2); females small and heavily diffused with grey (Plate H, Fig. 3); undersides with no blue-green basal flush in either males or females. Flying in July 1990 over mountain meadows at c. 1500m in Andorra and July 1993 in dry mountain meadows in the Eastern Pyrenees at c. 1300m. The latter colony was found on the 22 July in a steep hay-meadow near Prades. The butterflies were fresh and not uncommon. A pack of six males was seen pursuing a newly emerged female with rapid, twisting flight. Cross-leafed gentian Gentiana cruciata was present in the flowery meadow, but no alcon subsp? eggs were found on the plants. M. arion arion and a rich diversity of other butterfly species were also flying in the meadow. When the gentian plants were re-examined on 5 August no alcon subsp? adults were flying, but alcon subsp? eggs were dotted across the top surfaces of the larger leaves and in the whorl of leaves around the flowers at the top of the plants. These eggs had been laid individually, but there were several per leaf.
- 4. *M. alcon rebeli* Hirschke. Males (Plate H, Fig. 4) larger than *alcon* subsp? (above) and darker blue with wider black borders; females (Plate H, Fig. 5)

larger than *alcon* subsp? (above) with different shaped wings and deeper blue with more pronounced black markings; undersides with a blue-green basal flush in both males and females. Flying in June/July 1991 and 1994 in dry mountain meadows in the Spanish Central Pyrenees at c. 1000-1500m. *G. cruciata* was present in the meadows.

Although the *alcon* subsp? specimens resemble *alcon alcon* D. & S. as illustrated in Higgins & Riley, 1980 (Plate 18, Figs. 6a & b), I am tentative about classifying them as such because Higgins & Riley (1980) record *alcon alcon* as a lowland species feeding as larvae on *G. pneumonanthe* in marshy places and *alcon rebeli* as the dry meadow species living at higher altitudes (1200-1800m), feeding in the larval stages on *G. cruciata* and *G. germanica*. Manley & Allcard (1970) and van der Poorten (1982) consider *alcon* and *rebeli* to be distinct species, while Hochberg *et al.*, 1992 discuss *rebeli* but do not mention *alcon* in their review of *Maculinea* ecology. The subspecies of *alcon* found at low level in north Spain is recorded as *hospitali* Vilarrubia by Manley & Allcard, 1970 (Plate 30), which L.G. Higgins is recorded as having associated with *alcon* rather than *rebeli*. P.W. Cribb (Cribb, 1970) reported *alcon* in the Spanish Pyrenees, but as it was feeding on *G. cruciata* it could have been *rebeli*.

It is possible that the two types of *alcon* I have found are in fact both forms of *rebeli* as they were living in dry meadows at high levels and apparently feeding as larvae on *G. cruciata*. Higgins (1975) reports a wide range of variation in wing markings between *rebeli* populations.

On 22 July 1993, an aberrant butterfly was found in the steep meadow where alcon subsp? were flying (Plate H, Fig. 6). It is a female Maculinea which appears to have characteristics of both arion arion and alcon subsp?. It is intermediate in size between the arion and the alcon subsp? present in the meadow, although the wing-shape is more reminiscent of alcon subsp? than arion. The top surface has a dark grey suffusion like female alcon subsp?, but also has a blue sheen like arion. It has heavily suffused dark grey borders like female alcon subsp? and its black spots are much reduced. On the underside it lacks the forewing basal cell spot which is generally present in arion, but which is generally (although not exclusively) absent in alcon subsp?. The underside ground-colour of the wings is intermediate between the white-cream of arion and the sandy-cream of alcon subsp?. However, the underside hind-wings have a blue-green basal flush and pronounced black spots like arion. Three of the four underside basal spots present on the right hind-wing, are absent from the left hind-wing. All four of these spots are generally present in arion, but one or two of them are generally absent in alcon subsp?.

The structure of the ovipositor in the aberrant specimen (Fig. 1) is more similar to that of an *arion* from the meadow (Fig. 2), with heart-shaped sides to the ovipositor and a swelling at the ends of the ovipositor's supporting

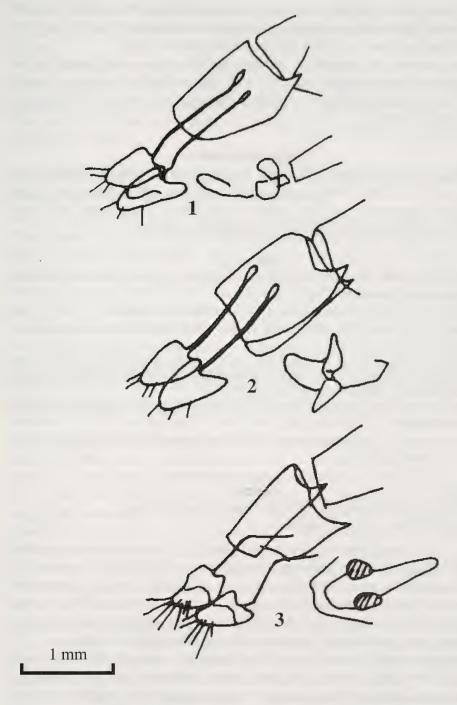


Fig. 1. Ovipositor of aberrant *Maculinea* butterfly from Prades, Eastern Pyrenees, July 1993.

Fig. 2. Ovipositor of *M. arion arion* from Prades, Eastern Pyrenees, July 1993.

Fig. 3. Ovipositor of M. alcon subsp? from Prades, Eastern Pyrenees, July 1993.

rods, than to the ovipositor of an *alcon* subsp? from the meadow (Fig. 3). The sides of the *alcon* subsp? ovipositor are less heart-shaped and the supporting rods have an elbow and no swelling at the ends.

The specimen is probably an aberrant female arion, as suggested by the structure of the ovipositor, but it is not impossible that arion and alcon which fly together and have the same chromosome number (n = 23; Higgins, 1975) can hybridise.

### Acknowledgements

I thank the Trustees and Staff of the British Museum (Natural History) for allowing use of the Entomology Library and butterfly collections in this study, and especially Mr P.R. Ackery for his help. I also thank Mr David Wilson for photographing the species depicted in Plate H.

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# Notable ant (Hymenoptera: Formicidae) records from Glen Strathfarrar, East Inverness

Glen Strathfarrar National Nature Reserve (2189 hectares) occupies the lower part of Glen Strathfarrar, East Inverness (VC 96). The heavily glaciated valley has steep slopes where relatively extensive tracts of Caledonian pine forest and birch woodlands have survived. In the valley bottom, the tree cover, in combination with free draining fluvio-glacial deposits, have created ideal conditions for a number of ant species.

Mixed nests of *Formica lemani* Bondroit and *F. sanguinea* Latreille were seen in many areas where there was sandy and stony ground adjacent to trees. Glen Strathfarrar provides the beginnings of the link between the populations of *F. sanguinea* to the north at Migdale Wood (Hughes, J., 1994, Notable records of ants (Hym.: Formicidae) in south-east Sutherland. *Ent. Rec.* 106: 75-76), and those in Glen Affric to the south. This latest record suggests that colonies of *E. sanguinea* may be surviving in other fragments of ancient birchwoods in the Glens of East Inverness and East Ross.

Myrmica sabuleti Meinert, M. lobicornis Nylander, Lasius flavus (Fabr.) and L. niger (L.) agg. were all frequent amongst similar habitat along the valley bottom.

In addition, the woodlands along the first six miles of the Glen support a thriving population of *F. aquilonia* Yarrow which, with the woodland management initiatives developed by Scottish Natural Heritage, are set to fare well in the coming decades.— JONATHAN HUGHES, 11a Kings Street, Embo, Sutherland.

# Phyllonorycter strigulatella (Zeller) (Lep.: Gracillariidae) mining Alnus glutinosa and extending range in Warwickshire

Hitherto (vide, e.g., A.M. Emmet, A Field Guide to the Smaller British Lepidoptera, 1979), the only accepted British host for P. strigulatella has been the exotic Alnus incana. But in October 1991, Mr B.R. Mitchell sent me some mined leaves of native alder A. glutinosa that he had found at Grendon in north Warwickshire. In addition to three mines of *P. rajella* (L.) and a few of P. stettinensis (Nic.) there were 16 specimens of a type of Phyllonorycter mine quite unlike those of any of the known British miners of A. glutinosa. I concluded that they must belong to P. strigulatella, and this was confirmed when some imagines emerged (indoors) in March 1992. These were the first confirmed records for Warwickshire, though the presence of the moth in the county had previously been suspected (J. Robbins, 1992, A Provisional Atlas of the Lepidoptera of Warwickshire, Part 3, p. 55), and since then mines have been found during 1992-1995 at no less than nine other sites in the county, chiefly in A. glutinosa but also in A. incana. Some of these sites were well visited during the 1980s and the moth was unlikely to have been missed had it then been present. These findings suggest an extension of range coupled with adaptation to a new (and much commoner) host. The use of A. glutinosa is not restricted to Warwickshire since in July 1995 I found a few occupied mines near Wye in East Kent.

The veins in the leaves of *A. incana* lie fairly close together and the larvae of *P. strigulatella* form long neat mines that touch the veins on both sides for the whole length of the mine. In *A. glutinosa*, on the other hand, the mines appear quite different, being remarkably untidy for those of a *Phyllonorycter*. It would seem that the larvae try to base their mines on the veins, but in this host they are much wider apart, and the other edges of the mines are irregular in outline. A series of mines measured 15-20mm in length by 7-10mm in breadth, and are predominantly green above; only the smaller mines may exhibit the mottled appearance said to be characteristic of the species. The cocoons lie roughly centrally in the mines, with the frass distributed around the edges of the latter. Limited data suggest that in the autumn the species pupates roughly three weeks later than *P. rajella.*— JOHN ROBBINS, 123b Parkgate Road, Coventry CV6 4GF.

# Continuation of (from page 284) "TWO WEEKS ENTOMOLOGISING IN BULGARIA, 12-26 SEPTEMBER 1995"

### B. GOATER

Due to a confusion, this final part of Barry Goater's article was omitted from the last issue of this *Journal*. We apologise for this omission and for any embarrassment which this may have caused.

### Continued from page 284:

A. agnorista Dufay – SW BG, Kresna Gorge, 13.ix., one; East Rhodopi Mts, Byalo Pole, 21.ix., one.

Catocala nupta (Linn.) - SW BG, Kresna Gorge, 13.ix., one.

C. elocata (Esp.) – East Rhodopi Mts, Studen Kladenetz, 18.ix., one at sugar; East Rhodopi Mts, Byalo Pole, 21.ix., one.

C. puerpera (Giorna) – SW BG, Kresna Gorge, 13.ix., one at sugar.

Grammodes bifasciata (Pet.) - Black Sea coast, Arkulino nr. Primorsko, 22.ix., two.

G. stolida (Fabr.) – East Rhodopi Mts, Studen Kladenetz, 18.ix., one; East Rhodopi Mts, Meden Buk, 20.ix., two.

Tyta luctuosa ([D. & S.]) – SW BG, Melnik, 14.ix., one.

Autophila ligaminosa (Evers.) – SW BG, Melnik, 14.ix., three in cave.

Apopestes spectrum (Esp.) - SW BG, Melnik, 14.ix., one at sugar.

Lygephila craccae ([D. & S.]) – East Rhodopi Mts, Studen Kladenetz, 18.ix., one.

Parascotia fuliginaria (Linn.) – SW BG, Kresna Gorge, 13.ix., one; SW BG, Rozhen, 15.ix., one at sugar; East Rhodopi Mts, Meden Buk, 20.ix., East Rhodopi Mts, Byalo Pole, 21.ix., one.

Orectis proboscidata (H.-S.) – East Rhodopi Mts, Momina Skala Chalet nr. Madzharovo, 19.ix., two.

Hypena rostralis (Linn.) – SW BG, Kresna Gorge, 13.ix., several in tunnel; SW BG, Melnik, 14.ix., one in cave, one at light.

Schrankia costaestrigalis (Steph.) – East Rhodopi Mts, Byalo Pole, 21.ix., two; Black Sea coast, Arkulino nr. Primorsko, 22.ix., two.

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# POLYOMMATUS ICARUS ROTT. (LEP.: LYCAENIDAE) ON TEAN, ISLES OF SCILLY

### RUPERT BARRINGTON

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IN HIS FAMOUS New Naturalist volume, *Butterflies* (1945), E.B. Ford described and illustrated a unique form of *P. icarus* that he found, in 1938, inhabiting the small island of Tean. This island, approximately 0.8km by 0.4km, is one of the 200 or so granite rocks or islands that make up the Isles of Scilly, twenty-five miles to the south-west of Land's End. In this form he noted that the majority of females of the summer brood (there seem to be no recorded observations of the spring brood) were dusted on the upper surface with pale silvery-blue scaling. The undersides of Tean *icarus* frequently exhibited ab. *costajuncta* Courv., and abs. *arcuata* B&L and *basijuncta* B&L were not uncommon. None of these forms are rare on the mainland, but the frequency on Tean was far higher than that usually encountered.

This race is sometimes referred to in the literature and the source is invariably given as Ford. I have not been able to locate any observations of this race other than Ford's. The fact that he was unable to find this form on any other islands in the archipelago that he examined, and that *icarus* is a non-migratory species, was of particular interest as it suggested that the Tean race might be in the process of evolving into a separate subspecies.

I was fortunate to spend a few days in the Scilly Isles in August 1995 and was particularly keen to get onto Tean to examine this race for myself. The weather for my stay was very hot with cloudless skies and the air, swept clean over the Atlantic Ocean, allowed for some spectacular views over the islands and beautifully clear sea. It proved difficult to get a boat out to Tean as all commercial boats operate set tours for visitors to the five large, inhabited Islands. However, I eventually located a boat making a tour of some of the smaller Islands and so, on the morning of 17 August, set out for Tean.

Setting foot on the island where Ford and his colleagues had carried out their ground-breaking ecological studies of *Maniola jurtina* L. (Dowdeswell. 1981), it was immediately obvious that the island flora had since undergone great changes. When he worked there a herd of cattle grazed the island, keeping back the rank growths of bramble and bracken that seem to take over any area on the islands that is not cultivated or grazed. Large areas of grasses were maintained, within which grew the foodplant of *icarus* larvae – *Lotus corniculatus*. The cattle were removed in 1950 and the vegetation has changed disastrously. The island is now dominated by thick bracken and bramble with long coarse grasses around the very perimeter and covering a sandy bar at one end of the island. Despite careful search I was only able to

find four female and six male *icarus*, all of the typical form. The foodplant was very scarce and the habitat looked quite unsuitable for the species.

Dowdeswell (1981) reports that in August 1938 he and Ford estimated the population of *icarus* to be between 450 and 500 adults. They also estimated the population of *M. jurtina* as being about 8650. I saw only small numbers of *jurtina* and the population now must be far below those old records.

Dense growths of bracken and bramble occurred in patches on all the other islands I saw on my visit, but they also contained suitable sites for *icarus*. The species was observed in good numbers on St. Marys, St. Martins, St. Agnes, and St. Helens. On all of these, the female uppersides exhibited the usual shade of blue, and while the aberrations *arcuata*, *costajuncta* and *basijuncta* were more frequent on St. Marys than I have found them elsewhere (Plate H, Figs. 7-8), the majority of specimens nevertheless exhibited typical undersides. It is perhaps possible that Ford's form of *icarus* might exist on one of the other small, uninhabited islands, but it would be quite an undertaking to make a round trip to investigate this. If it does occur it would probably have had to evolve independently of the Tean race, given the non-migratory nature of the species, and this seems unlikely. It is therefore probable that this unique race has been lost.

### Acknowledgement

I am grateful to Mr David Wilson for photographing the specimens depicted in Plate H.

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# Some nationally rare Tachinidae (Diptera) from Brent Reservoir including the second British record of *Thecocarcelia acutangulata* (Macquart)

A female *Thecocarcelia acutangulata* was taken while collecting in and around Carr woodland on the East SSSI at Brent Reservoir (TQ2287, VC 21 Middlesex) on 3 October 1994. This is the second British record of this species which is categorised as Vulnerable (RDB 2) by S.J. Falk (1991. A review of the scarce and threatened flies of Great Britain (Part 1). *Research and survey in nature conservation.* 39: Nature Conservancy Council). The specimen keys clearly to *T. acutangulata* (in Belshaw, R. 1993. Tachinid Flies (Diptera: Tachinidae). *Handbooks for the Identification of British Insects.* 10: 4a(i). Royal Entomological Society of London) and its identity has subsequently been confirmed by N. Wyatt. It is a medium-sized tachinid fly and the current specimen measures 7.5mm from the base of the antennae to the tip of its abdomen. Critical key characters include the very large

hairless eyes and narrow genae, and the presence of four katepisternal bristles. In addition it may be noted that the body and legs are black and it is a heavily dusted species, the patterns shifting with point of view. Viewed obliquely from in front there is a narrow dust stripe on each side of the scutum between the dorsocentral and achrostical bristles. These extend slightly post-suturally. The humeri and the sides of the scutum including the supra-alar area are heavily dusted ash-grey as is the basal 40% of the scutellar dorsum. On the thoracic pleura a broad band of dense dusting extends obliquely down covering 80% of the anepisternum and the posterior 60% of the katepisternum.

This species was added to the British List in 1986 (Wyatt, N.P., Thecocarcelia acutangulata (Macquart) (Diptera: Tachinidae), new to Britain. Entomologist's Monthly Magazine, 122: 203-204) on the basis of a male collected at Hadleigh Wood, South Essex (VC 18) on 21/22 July 1954 by D.J. & J.A. Clark, a specimen which remained unrecognised for two decades. The small number of specimens from continental Europe in the Natural History Museum (London) would suggest that this species is rather scarce but widely distributed in Europe (N. Wyatt, pers. comm.). The distribution of this species in the Palaearctic region is given as France, Germany, Austria, Switzerland, Hungary, Italy, the USSR (Transcaucasus) and Japan by Herting and Dely-Drakovits (in: Soós, Á. & Papp, L., 1993. Anthomyiidae-Tachinidae. Catalogue of Palaearctic Diptera, 13: Hungarian Natural History Museum, Budapest). The same authors cite only one other member of the genus from continental Europe. This is Thecocarcelia trichops Herting, not known from the UK and the type specimen of which is from France. Reared specimens of T. acutangulata in the Natural History Museum are all Afrotropical and are associated with five species of hesperiid host (as T. incendens (Rondani)) from Thymelicus lineola Ochs., the Essex Skipper butterfly (which occurs at Brent Reservior) (Carl, K.P., 1968. Thymelicus lineola (Lepidoptera: Hesperiidae) and its parasites in Europe. The Canadian Entomologist 100(8): 785-801). The same author suggests that this fly might utilise different hosts at different times of the year. Carl also refers to a rearing record from the hesperiid Parnara mathias in Senegal. While R.W. Crosskey lists eight species of Afrotropical hesperiid as hosts of Thecocarcelia spp. he also cites one host species from each of the families Nymphalidae, Sphingidae and Noctuidae (1984. Annotated keys to the genera of Tachinidae (Diptera) found in tropical and southern Africa. Annals of the Natal Museum, 26(1): 189-337). T. acutangulata was added to the Finnish fauna on the basis of rearing records from Clostera curtula (L.), the Chocolate-Tip and from C. pigra (Hufn.), the Small Chocolate-Tip (Notodontidae) (Hackman, W., 1981. För Finland nya flugor samt tre övriga tillägg till förteckningen över Finlands Diptera. Notulae Entomologicae, 61: 225-226). While Belshaw (op. cit.) questions Hackman's host records, the

present author knows of no *prima facie* reason for doing so and, in common with many other members of the Tachinidae, the host range of this species requires further study. On the basis of the evidence cited here it would appear that, while members of the Hesperiidae are the preferred hosts of *Thecocarcelia* spp., members of other families of Lepidoptera are also utilised. In addition there may be a seasonal element to host selection in this species.

The following Rare (RDB 3) (Falk, *op. cit.*) species of tachinid fly were also recorded from Brent Reservoir: *Anthomyopsis nigrisquamata* (Zett.) (det. confirmed S.J. Falk), one male, two females, 8 August 1995, East SSSI, TQ2187: *Wagneria gagatea* Rob.-Des., one male, 28 May 1995, North SSSI, TQ2188. I would like to thank Nigel Wyatt for his valuable help in preparation of this note.— John R. Dobson, 46 Elmwood Avenue, Kenton, Harrow, Middlesex HA3 8AH.

### Channel Islands fauna is not "British"

I would like to comment on a certain aspect of Robert Burrow's article on the Macrolepidoptera of Jersey (*antea*: 133). In this he refers to nine species of moth as valuable additions to the British list; although recorded from the Channel Islands.

I feel it is time that it was made quite clear to your readers that records from Jersey are NOT referable to the British list. Bermuda is a British island, so is Jersey; but in neither case do their fauna qualify for inclusion.

On the other hand the Republic of Ireland is not British, but, biogeographically, it is part of the British Isles. Its fauna is referable to "The British List".

What worries me somewhat, is that fact that Mr Burrow cites Newman, as long ago as 1872, as stating that the Guernsey Underwing *Polyphaenis sericata* was British. Thus long ago the fallacy persists. It is time it was shown the killing bottle!— CLIVE SIMPSON, 4 Plowden Park, Aston Rowant, Oxon OX9 5SD.

EDITORIAL NOTE: There can be no doubt that Brigadier Simson is absolutely correct in that the Channel Islands are biogeographically distinct from mainland Britain, whatever their political allegiance Mr Burrow's assertion that the recorded species are new to the British List is, however, technically correct, no matter how much it goes against the grain. My (editorial) interpretation of what is implied by "The British List" is the work by J.D. Bradley and D.S. Fletcher (1979, A Recorder's Log Book or Label List of British Butterflies and Moths, Harley Books) and its subsequent revisions; in this work, Lepidoptera from the Channel Islands are included. I note also that Maitland Emmet persists in the inclusion of Channel Islands species in his Chart showing the life history and habits of the British Lepidoptera, which features on pages 61 to 303 of The Moths and Butterflies of Great

Britain and Ireland, volume 7(2) (Harley Books, 1991). It is not my place as editor of this journal to attempt to redefine the British List. However, I would draw a distinction between this and directly calling a species "British" – hence the final four words of qualification which Mr Burrow agreed to being added to the title of his second paper on page 136. It may indeed be time to show this fallacy the killing bottle – have we any volunteers?

Some field observations on three uncommon hoverflies – *Doros profuges* (Harris), *Microdon mutabilis* (L.) and *Cheilosia chrysocoma* (Mg.) (Dip.: Syrphidae) in Lancashire, 1991-1996.

Doros profuges (Harris) (= conopseus auct.)

After being shown the habitat which *Doros* requires (in the south of England) and also being lucky enough to see three specimens in early June 1990 I decided that I had to see more of this rare and fascinating beast. I have been able to get access to old Lancashire records thanks to Darwyn Sumner and managed to find the site described. However, the beast has not been seen in the area (Grange-over-Sands) since those early records.

In 1993 Simon Heyho discovered *Doros* across the bay in the area of Leighton Moss. Two days afterwards I had also observed the animal, hovering low in the bramble just out of reach, which seems to be standard behaviour for it.

Since June 1993 I have been lucky enough to observe for various lengths of time approximately 20 specimens within four square kilometres of the original site. The area is well-drained soil on limestone with occasional limestone pavement and many ant nests. In the south the site is on well-drained chalk. Both sites have plenty of low bramble. However I am not very familiar with the southern site so my observations are restricted to the northern sites only.

- *Doros* is most of the time a slow deliberate flyer hovering in or only just above bramble. However, when disturbed it flies extremely quickly in the opposite direction.
- In flight it bears a remarkable resemblance to the genus *Odynerus* (Hymenoptera: Eumenidae) and can very easily be overlooked.
- When at rest it holds its wings anywhere between 90 and 45 degrees to the abdomen.
- I have recently observed two separate females surveying *Lasius niger* nests. However ovipositing behaviour was not observed. *Doros* was constantly being harried by *Microdon mutablis* which is very common in the area.
- All observations have been between 6 and 26 June (could this suggest an ant relationship?).

### Microdon mutablis

This hoverfly is very common in the north of the county. As an example, on 16.vi.1995 I gave up counting after reaching 50 individuals in the three-hour period. I observed and photographed a female ovipositing at and into the entrance of a *Lasius* nest. The whole operation only took about an hour or so and at no time was the fly disturbed by the ants coming and going from the nest entrance, which she seemed to be filling completely with her abdomen. When she had finished, she flew around the nest a few times then landed just off to one side and rested in the sunlight. All areas in which *M. mutablis* were observed are well-drained on limestone, though Stubbs (1993, *British Hoverflies, an illustrated identification guide*, BENHS) mentions damp habitat

### Chielosia chrysocoma

While I was photographing Criorina ranunculi (Panzer) in early May 1993, I observed what seemed to be an example of the bee fly Bombylius major hovering over a patch of bare earth a few yards to my left. However, on closer inspection I was pleasantly surprised to see an example of C. chrysocoma. As I moved myself into a position to photograph it, it disappeared into the distance. The area was near Leighton Moss and is covered with the birch, ash and sycamore on a hillside with a clear view of one of the pools. I was obviously quite upset that I had missed the opportunity, when into the same area flew two examples of B. major which rested on the bare earth in the sunlight. A few moments later, in came C. chrysocoma, and started hovering about six inches above one of the Bombylius. After a few seconds, it started to drop until it came into contact with the back of Bombylius and then moved slowly across to the other Bombylius and did the same thing. At no time did either of the bee-flies move. A few moments later, another C. chrysocoma came into the area at high speed, very low and disturbed the other three insects which all disappeared very rapidly.-LANCE GORMAN, 2 School House, Alston, nr. Longridge, Preston PR3 3BJ.

# **DENIS F. OWEN**

We were saddened to learn of the recent death of Denis Owen after a short illness. Denis made a number of valuable contributions to the pages of this journal and his passing is a great loss to entomology. It is hoped that a short obituary will be published in a future issue of this journal.





**Figs. 1 - 2.** *Hypanartia lethe* Fabricius (Lep.: Nymphalidae) x 1. **1.** ssp. *demonica* Hb.; **2.** ssp. *lethe* Fabr. (West, 1996).

**Figs. 3 - 4.** *Cymothoe hesiodina* Schultze (Lep.: Nymphalidae) x .85. **3.** Male; **4.** Female (Larsen, 1996).



Figs. 1 - 4. Pararge aegeria L. ssp. insula Howarth (Lep.: Satyridae).
1. Upperside of female; 2. Upperside of male;
3. Underside of female; 4. Underside of male (Barrington, 1996).

Figs. 5 - 6. Maniola jurtina L. ssp. cassiteridum Graves, ab. fracta Zweight (Lep.: Satyridae) - undersides. (Barrington, 1996).

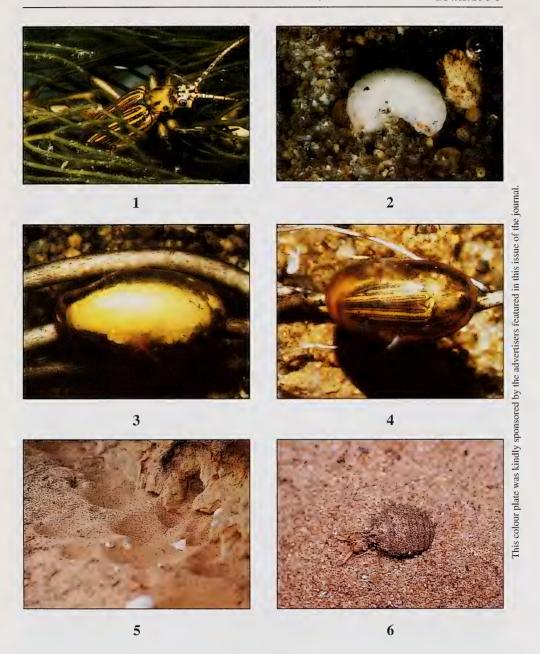
Fig. 7. Euroleon nostras (Fourcroy) (Neur.: Myrmeleontidae) adult (Cottle et al. 1996).



1. M. arion ssp. arion L. female; 2. M. alcon D. & S. ? ssp. alcon male; 3. M. a. ? alcon female; 4. M. alcon ssp. rebeli Hirschke male; 5. M. a. rebeli female; 6. Maculinea sp. ? arion L. female. (Wakeham-Dawson, 1996).

Figs. 7 - 8. *Polyommatus icarus* Rott. (Lep.: Lycaenidae). Aberrations from Isles of Scilly. 7. Male; 8. Female. (Barrington, 1996).

Figs. 9 - 11. Forms of *Panolis flammea* (Lep.: Noctuidae). 9. f. flammea D. & S.; 10. f. grisea Tutt; 11. f. griseovariegata Goeze. (West, 1996).



Figs. 1 - 4.

Stages in the development of *Macroplea appendiculata* (Panzer) (Col.: Chrysomelidae).

1. Adult characteristically hiding within fronds of *Myriophyllum alternifolium*; 2. Larva;

3. Pupa within cocoon; 4. Adult within cocoon (Owen & Menzies, 1996).

Figs. 5 - 6.

Early stages of the ant lion *Euroleon nostras* (Fourcroy) (Neur.: Myrmeleontidae) in Britain. **5.** Feeding pits contructed by the subterranean larvae; **6.** Third (final) instar larva (Cottle *et al*, 1996). Photographed by D. Merrick.

# PANOLIS FLAMMEA D. & S. (LEP.: NOCTUIDAE): ITS FORMS AND THEIR INCIDENCE IN NORTH-WEST KENT

### B.K. WEST

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RECENTLY CONSIDERING this species in relation to the incidence and decline of melanism in this area I was surprised to find that the standard textbooks in current use were at variance with my perception of the species being essentially trimorphic with three distinct named forms – flammea D. & S., grisea Tutt and griseovariegata Goeze (Plate H. Figs. 9, 10, 11); the moth has also been known as *piniperda* Panzer, a reddish form like *flammea*. Heath (1979) describes flammea and griseovariegata, the latter as "having the forewing suffused grey and greenish-grey" and states that the two forms and intermediates co-exist throughout the range. Similarly Skinner (1984) also states that griseovariegata is "a greyish form found commonly throughout the species' range". Thus it has not been appreciated that griseovariegata is the intermediate form, due to an apparent unawareness of f. grisea. The misconception seems to stem from Goeze (1781) and from Tutt (1892) whose descriptions leave much to be desired. Goeze describes griseovariegata in both French and German, the French rendering being "ailes rabatues grises tachetées de jaune orange, avec deux grandes taches blanches sur chacune". Goodson and Read in their unpublished work upon which the arrangement of the National Collection is based interpret this with some licence as "intermediate between the red and grey forms, the red and grey mingled", a concise and accurate description of such specimens. Secondly, Tutt leaves much room for clarity in his attempt to establish f. grisea, stating "I am not certain whether this is Göze's type of griseovariegata but it is certainly the Var. A of Guenée who writes 'the red colour almost completely disappears, and is replaced by greenish-grey, the stigmata also shaded slightly inside with the same colours'." Tutt concludes that in England a fair proportion of specimens is of this variety. So Tutt does not formally describe his grey form, and one wonders why he found it necessary to establish a grey form under his name knowing it to have been described by Guenée and perhaps by Goeze, unless he considered "Var. A" an unsuitable appellation!

However, f. grisea has been acknowledged. Kettlewell (1973) lists it as a non-industrial melanic, widespread throughout its range. Goodson and Read (*ibid*) describe it as having "the red colour almost completely absent and replaced by greenish-grey". The arrangement of the National Collection is based upon this work and includes two rows of such specimens, labelled grisea, a similar number of f. flammea, reddish with an absence of grey scaling, and a very much larger series of intermediates, with varying proportions of reddish and grey, labelled griseovariegata. My one criticism of this scheme originates from

Guenée's description of his Var. A, later adopted by Tutt, and in turn by Goodson and Read, is the inclusion of the adjective "almost". It would have been simpler to have omitted such qualification which has introduced unnecessarily a subjective element, for the series of f. *grisea* in the National Collection almost entirely comprises grey only specimens, the few exceptions possessing a submarginal band on the forewing of a deep purplish hue that would not be interpreted as reddish.

The confusion in the textbooks has had repercussions elsewhere, including the very few works so far published of a local nature. Plant (1993) for the London area follows the standard textbooks in assessing the relative frequency of the forms of this species, only f. *flammea* and f. *griseovariegata* being mentioned, to occur apparently in roughly equal numbers in most area. Although Chalmers-Hunt (1961) for Kent often comments upon the frequency and distribution of forms of polymorphic species, regarding *P. flammea* he is silent. These two omissions are unfortunate, for by my treating the moth as being trimorphic, comparisons cannot be made accurately between north-west Kent and the remainder of Kent and other parts of the London area, where this has not been done.

However unsatisfactory the original definitions of two of the three forms may be, this classification seems to be correct genetically, *flammea* and *grisea* representing the homozygotes, and *griseovariegata* the heterozygotes, although these grey specimens with a purplish submarginal band pose a problem which can only be solved by careful breeding. I have considered them as *griseovariegata*, and have restricted the term *grisea* to those specimens in which the ground colour of the forewing is restricted to various shades of grey.

At Dartford the species is a regular visitor in small numbers to my m.v. light, and over the past twenty-seven years 78 specimens have been noted – 94% griseovariegata, 5% flammea and 1% grisea, in considerable contrast to the analysis for the London area in general of 50% flammea. Although Kettlewell lists f. grisea as a melanic form in Britain, I think this is an over-simplification for many griseovariegata appear darker than average grisea, especially specimens with a dark purplish submarginal fascia combined with a dark greyish and purplish-red ground colour. Considering the high level of atmospheric pollution here it is perhaps surprising that f. grisea occurs only as a rarity.

My aquaintance with *P. flammea* is mainly limited to Kent and the counties of Inverness-shire and Moray in Scotland. Moths examined at Aviemore, Carr Bridge and Grantown-on-Spey have shown f. *griseovariegata* to be the commonest, f. *flammea* quite common, and f. *grisea* rare, indeed, the only specimen of this form in my collection was obtained from Aviemore, 22.iv.1971.

### Acknowledgements

I am grateful to Mr D. Carter of the British Museum (Natural History) for granting me permission to examine the National Collection of British moths and

relevant literature, and to the staff of the Entomological Department library for their assistance. I am also grateful to Mr David Wilson for the photography of the specimens depicted in Plate H.

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### **BOOK REVIEW**

The Moths and Butterflies of Great Britain and Ireland, Volume 3 - Yponomeutidae to Elachistidae. Edited by A. Maitland Emmet. Harley Books, 1996. 454 pp., including 11 colour plates, 8 duotone plates of larval cases, several hundred text figures and 240 distribution maps. Hardbound: ISBN 0 946589 43 7. £70, rising to £75 on 1 January 1997.

This is surely one of the most eagerly awaited volumes in this excellent series. It covers the 240 British species in the families Yponomeutidae, Glyphipterigidae, Epermeniidae, Schreckensteiniidae, Coleophoridae and Elachistidae - some of which have never before been comprehensively treated in the British literature.

The systematic section follows the established format of a full description, details of life history and a distribution map. There is an introductory chapter entitled "Invasions of Lepidoptera into the British Isles" by David Agassiz, which is very interesting and extremely well written. A particularly helpful inclusion under each family in the systematic section is an up to date synonymic check-list of species. This takes into account the great many changes in nomenclature in recent years and is cross-referenced to the life history chart in volume 7, part 2, by the use of the Bradley and Fletcher reference numbers. Also included is the latest scheme for the classification

of the entire British Lepidoptera, taking into account all of the changes that have occurred since the publication of earlier volumes.

For me, however, it is the coverage of the Coleophoridae that is the most needed. I wonder how many other readers have, like me, a box of such insects - all looking rather similarly nondescript and all without name tags? How well does this new volume enable me to get these animals put away?

The starting point for most lepidopterists is, I suspect, a colour picture of the adult moth. Richard Lewington's excellent colour illustrations are indeed a very good starting point, and also serve well as confirmation that what you think you have before you actually looks like the illustrated version! The pictures can not be faulted. However, they also serve to confirm my suspicion that there are whole sections of the Coleophoridae in which all the species look the same: for one such as myself who is far more interested in recording than in arranging perfect specimens in rows, the illustrations do little towards naming the worn, brown things in my "Lepidoptera Problematica" box. The next step in identification must be the dichotomous key. This seems to work quite well for well marked, non-worn examples of several species and I was able to name several of the outstanding specimens in my box in this manner. Although many of my worn examples got lost at an early stage, this can not in any way be said to be a fault of the key itself, which begins with the cautionary note that "Some species cannot be reliably identified by means of the key to imagines and are likely to require genitalic examination". Such problem species are flagged in the key as a guide to the reader, but I wonder how sound this is in securing accuracy. Many lepidopterists are not entirely used to working their way through dichotomous keys and it is entirely possible, as it is with any key, for a person to make a mistake and arrive, incorrectly, at a species which is not flagged as one requiring genitalic confirmation. I think that for such a tricky group as the *Coleophora* an additional rider suggesting that genitalia should be examined as a matter of routine would be of value.

Jozef Razowski's drawings of the genitalia of the Coleophoridae are well executed and apparently accurate. There is an interesting contrast between these drawings, and those of the Elachistidae which, at least for the males, illustrate only the variable parts - principally the uncus lobes, the vinculum and the right valva, with the aedeagus depicted for some groups. I find this a helpful format. It immediately steers me to those parts which require scrutiny and does not cloud the issue with unnecessary drawings of parts which do not contain diagnostic features.

The price of this volume is high, at £75, but for the serious entomologist it presents excellent value for money and I look forward with eager anticipation to the remaining four planned volumes.

# A NOTE ON THE LIFE HISTORY OF MACROPLEA APPENDICULATA (PANZER) (COL.: CHRYSOMELIDAE)

J.A. OWEN1 & I.S. MENZIES2

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THE EGGS OF REED BEETLES and their allies (Donaciinae) are laid on aquatic plants on which the larva feeds below the surface of the water. When full-grown, the larva forms a cocoon attached to the submerged stem or root of the plant. Pupation occurs in the cocoon. The adult eclodes in late summer but remains in the cocoon until the following year.

Evidence that the life history of the beetle *Macroplea appendiculata* (Plate I, Figs. 1-4) in Britain conforms to this pattern was first obtained many years ago (Collins, 1911). A visit to Talkin Tarn by J.A.O. on 26.viii.1994 provided material confirming the general style of the beetle's life history and allowing the major stages to be photographed. On the occasion, a larva and four cocoons were collected from stems of *Myriophillum alterniflorum* DC growing near the edge of the tarn and subsequently kept in a jar of rain water along with some fronds of the host plant in an unheated garage.

The larva (Plate I, Fig. 2) was a stout, whitish, feebly-segmented, curved grub about 10mm in length, flattened on the ventral side and convex on the dorsal side. It appeared at first to be eating some of the foodplant but it died after about 25 days. Possibly it was injured in the process of being collected.

The cocoons had transparent walls. Two contained pupae whose features could be seen clearly through the cocoon walls (Plate I, Fig. 3). One of these was seen on 19.ix.1994 to hold an adult (Plate I, Fig. 4). The other at this stage was seen to be covered with fungal hyphae and was found on being opened to contain a dead pupa.

The other two cocoons were seen at the time of collection to hold adults which were similarly visible through the cocoon walls (Plate I, Fig. 4). One of these cocoons was seen to be cracked and the adult it had contained made its way out after a few days. The other, together with the cocoon holding the adult which had ecloded in captivity, was put in a container of rain water in a domestic refrigerator which maintained a temperature in the range of 5-6°C to simulate winter conditions in the wild.

At the end of January, after the cocoons containing adults had been in the refrigerator for 18 weeks, mould started to affect the plant stems in the container in spite of regular replacement of the water. With fears that the mould might affect the adults in the cocoons, the container was removed from the refrigerator and placed in an unheated room where the temperature ranged from 8-12°C. Six days later, the container was found to contain two adults each of which had escaped from its cocoon through a small hole at

one end. It seems likely that the adults had become activated by the warmer environment.

*M. appendiculata* was first recorded from Talkin Tarn by Pearce (1922). At that site, the host plant appears to be exclusively *M. alterniflorum* but at other sites in Britain cocoons of the beetle containing adults have been found attached to a number of other aquatic plants including *Potomageton* spp., *Scirpus* spp., *Carex* spp., *Sparganium* spp., *Sagittaria*, and *Butomus* (Collins, 1911; Stainforth, 1944; Aubrook, 1948).

### Acknowledgements

Our thanks are due to Mr R. Marsh for supplying copies of various papers published in the *Naturalist* and to Miss Sue Brodie of the Enquiry Unit, Royal Botanic Gardens, Kew for the identification of the host plant at Talkin Tarn.

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# Britain's newest and most northerly wasp population

Social wasps of the family Vespidae are only occasionally recorded in Shetland, Britain's most northerly land mass. Many records are anecdotal but they suggest that accidental importation, often in fruit, is the most common source of the records. However, records form ships at sea and from the remoter islands imply that natural vagrancy may occur. In the latter category are records of a Norwegian Wasp *Dolichovespula norwegica* (Fabricius) on Fair Isle on 22 August 1991 (Riddiford and Harvey 1992, *Ent. Rec.* 104: 263-264) and an unidentified wasp on Foula in June 1992 (S. Gear *pers. comm.*). A German Wasp *Vespula germanica* (Fabricius) found in fruit at Cunningsburgh in March 1993 (J. McKee *pers. comm.*) was unusual only in that anyone bothered to identify it. Talking to shop assistants anywhere in the islands reveals that wasps are amongst the commonest of the entomological surprises to be found in consignments of fresh produce.

In the summer of 1993 both Neil Marks and Harry Rose independently caught wasps free-flying in Lerwick which they identified as Common

Wasps Vespula vulgaris (Linnaeus). In September however KO, in his role as pest control officer for the Shetland Islands Council (SIC) Environmental Services Department, was notified of an active wasps' nest in Kveldsro Gardens, in central Lerwick. The nest was causing concern to the residents and required removal. Upon investigation the nest was found to be in the roof cavity of a single-storey house. The nest itself was inaccessible. After speaking to the resident of the house it transpired that the nest had been active since early summer and was supporting a healthy colony, as up to 20 individuals were being killed each day. A few specimens obtained were identified as V. vulgaris and a specimen from this nest has been placed in the National Museum of Scotland in Edinburgh. The nest was treated with insecticide, but as it was nearing the end of its breeding cycle it was thought unlikely to have much effect. Wasps, presumably from this colony, caused quite a nuisance in the shops of Commercial Street in central Lerwick in the autumn, where their unfamiliarity caused some consternation. At the time it was thought that this was the first proven breeding record of wasps in Shetland but in discussion with employees of the Housing Department it was revealed that they had removed an entire nest from a house at Sound on the outskirts of Lerwick in 1989. No specimens from this nest were retained but is believed that they were also Common Wasps.

In 1994 adult wasps were noted around Lerwick from late July onwards. The presence of nests was not confirmed until 28 August when one was reported from Knab Road, close to the location of the previous year's nest. Thereafter followed several reports of other nests, primarily as a result of the SIC requesting details of the location of any nests in the local newspaper. A total of 18 nests were discovered in Lerwick including one at the previous year's site. Ten nests were within a few hundred metres of the original site and seven more were strung out in an almost straight line up to a kilometre away. The remaining site was at Helendale on the far side of Lerwick, almost 2km distant. Located nests included eight situated in roof or floor spaces in buildings and ten in the ground. In addition there were several reports of Common Wasps entering houses in Scalloway (8km to the west of Lerwick) in 1994, suggesting at least one nest was in that area, but despite several requests for information on nest locations, none were found until the following spring when a dormant nest was located in an attic.

In 1995 a total of 40 nests in Lerwick were reported to the Environmental Services Department of the Shetland Islands Council. There was a suggestion that there were fewer nests around the original site (although this site itself was still in use) although possibly established nests were not being reported again. Most nests reported in 1995 were further west, away from the shopping centre and in a suburban area with larger gardens. There were also ten nests around Helendale on the western edge of Lerwick. All nest sites were recorded in 1995, 13 were in roof or floor spaces in buildings and

the remainder were in holes in the ground. More unusual sites were in a barrel and in a pile of peats (which are used as fuel in Shetland). Elsewhere there were further reports of wasps in Scalloway in 1995, and although again no certain nest site could be found they were common around any gardens in the village with established trees.

It would appear that all subsequent nests were founded by queens produced from the original nest. The origins of the original queen is uncertain. Common Wasps have colonised Orkney since 1986 and there are also breeding records of Norwegian Wasp *Dolichovespula norwegica* (Booth 1994, *The Orkney Naturalist* 1994: 54). The spread of certain Continental wasps into southern Britain has received much attention in recent years (see for example Else 1994, *British Wildlife* 5: 304-312). Perhaps we are seeing a similar spread of a more familiar species at the opposite end of Britain. It would be interesting to know if there has been any expansion of range by any wasp in Scandinavia. The location of the original nest near the shopping centre of Lerwick, and the apparent move away from this area to more suitable areas since then, lends support to the theory that the original queen arrived in fresh produce. However, the fact that the wasps have managed to become established is a suggestion of climatic change.

What of the future for this most northerly (and in the eyes of most Shetland residents, unwelcome) wasp population? Two unusual sets of weather conditions may help explain their successful colonisation. Recent winters have been, by Shetland standards, relatively cold with fairly frequent snow. Such conditions increase the likelihood of successful hibernation as they reduce the damp, mild conditions which encourage fungal infections in hibernating insects. In addition, the last two summers have been relatively warm and sunny (again, judged by Shetland standards), which can have only been beneficial to heat-loving Hymenopterans such as wasps.

It looks likely that the best efforts of the Environmental Services Department will be in vain as most nests are only reported to them, and hence treated, after the new batch of queens have departed. The increase in the known population from one nest in 1993 to 18 in 1994 to 40 in 1995 reveals the ineffectiveness of treating nests late in the season. Obviously the wasps carry out much of their life cycle without drawing attention to themselves or causing any nuisance. A return to the sort of weather Shetland experienced during the 1980s, with mild, wet and windy winters, may prove to be a more effective control measure. These conditions would make fungal infections of hibernating queens more likely. However, it would appear that wasps have already established a strong foothold in Shetland's two main centres of population.— M.G. Pennington, Shetland Entomological Group, 9 Daisy Park, Baltasound, Unst, Shetland ZE2 9EA; K. Osborn, 20 Nederdale, Lerwick, Shetland ZE1 0SA and J.D. Okill, "Heilinabretta", Cauldhame, Trondra, Shetland.

# HISTORY OF ESTABLISHMENT ATTEMPTS WITH THE LARGE COPPER BUTTERFLY LYCAENA DISPAR (HAWORTH) (LEP.: LYCAENIDAE)

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THE LARGE COPPER butterfly, Lycaena dispar is famous amongst British lepidopterists as the first documented case of an extinction and subsequent re-introduction in the UK. In fact it has received worldwide attention as the first ever case of active insect conservation (eg. New, 1991; New et al., 1995). Since 1909 (Verral, 1909), there have been numerous attempts to establish L. dispar populations, and in particular using the north-west European L. d. batavus (Oberthür), in both the UK (see Duffey, 1968) and The Netherlands (see Bink, 1970). However, despite this long history, none of these establishment attempts has resulted in a viable, self-sustaining population, and under the strictest definitions, they can all be considered as having failed.

The longest running attempt has taken place at Woodwalton Fen, now a National Nature Reserve, Cambridgeshire. A population has in effect been resident there since its original introduction in 1927, albeit via the protection of larval stages in some years and regular re-enforcement from captive stock (Duffey, 1968; Duffey & Mason, 1970; Duffey, 1977). However, despite this long history, the lack of any sightings of adults on the reserve in 1994 or 1995 would suggest that the colony resulting from the latest (1987) re-establishment is now extinct (Pullin, McLean and Webb, 1995).

Although insect establishment attempts have been catalogued before, notably by Oates and Warren (1990), no treatment of *L. dispar* has proven comprehensive. In particular we felt that at this stage in *L. dispar*'s conservation history, with preliminary experimental releases in the Norfolk Broads under way, an account of previous attempts should be published, and that is what this paper aims to provide.

All attempts are listed below in chronological order. Necessarily, the amount of detail included for different attempts varies, as this is dependant upon the information provided in the original published (or unpublished) accounts. Unfortunately the majority of establishments have been poorly recorded and monitored, a recurrent problem within the field of butterfly conservation (Oates and Warren, 1990).

# 1909. Wicken Fen, Cambridgeshire.

G.H. Verral released "a few" *L. d. rutilus* Werneburg larvae, apparently obtained from Captain E.B. Purefoy, who had collected in the Berlin Marshes, Germany. This establishment attempt was in effect a field

experiment, as Verral was interested to see if there was a reversion to the (extinct) English *L. d. dispar* (Haworth) form, once the butterfly was once again present at an English site. The attempt failed and although there are no details available, this was assumed to be because the intended foodplant, *Rumex hydrolapathum* Hudson, was scarce (Verral, 1909; Committee, 1929; Riley, 1929; Ford, 1945; Duffey, 1968).

### 1913. Greenfields, County Tipperary, Republic of Ireland.

Captain E.B. Purefoy introduced German L. d. rutilus, collected from the marshes north of Berlin, into this site, which was a small bog that had been prepared via the planting out of the foodplant, R. hydrolapathum, 120 larvae were released in May 1913 and in the summer of 1914 about 400 imagines were also released, having been reared from 700 larvae collected from the same German site. This colony survived until 1936, and no reasons for its demise are given. However an attempt to establish L. d. batavus at the same site in 1942 eventually failed (in 1955) because the fen became unsuitable, presumably as the result of hydroseral succession and subsequent scrub encroachment. Therefore it is possible that this was the reason for the extinction of the original colony of L. d. rutilus (Committee, 1929; Ellis, 1951; Duffey, 1968). Interestingly, an adult L. d. batavus was recorded in Ireland in 1970, although this was believed to be an escapee that had flown 130 miles from its release site (Heal, 1970). Although this probably was an escapee, it is likely that it was from a source much closer to Heal. The maximum recorded distance moved by adult females in The Netherlands is something in the order of 30 kilometres (van Swaay, pers. comm.).

# 1926. Woodbastwick Fen, Bure Valley, Norfolk Broads.

550 *L. d. rutilis* pupae, of German origin, but obtained from the Irish colony at Greenfields, County Tipperary, were placed in cages at Woodbastwick Fen. Upon eclosion, the imagines were released onto the fen. The colony only survived until 1928, and the attempt was thought to have failed because docks were only to be found along waterways, and were not favoured as oviposition sites by the females (Ellis, 1951, 1965; Duffey, 1968). It is noteworthy that Oates and Warren (1990) recorded that the colony survived until 1931, differing from the 1928 date given in other published accounts.

# 1927. Woodwalton Fen, Cambridgeshire.

Previous attempts at establishing *L. dispar* in the British Isles had all used *L. d. rutilus* and had all been unsuccessful in the long term. The discovery of *L. d. batavus* in Friesland, The Netherlands, in 1915 excited British entomologists keen on restoring *L. dispar* in the UK because of both morphological and ecological similarities between the extinct *L. d. dispar* and the newly discovered Dutch race. In both respects, the English and Dutch races shared more in common with each other than either did with *L. d. rutilus*. Therefore, subsequent to the discovery of *L. d. batavus*, the

Committee for the Protection of British Lepidoptera, a branch of the Entomological Society of London (now the Royal Entomological Society) decided to attempt to establish a population at Woodwalton Fen (Committee, 1929).

In late 1926, scrub was cleared from 8.8 ha of Woodwalton Fen and large numbers of R. hydrolapathum were planted, in preparation for the arrival of L. d. batavus. In 1927, 38 adults (25 males and 13 females) of Friesian L. d. batavus (Wittpen, 1928) were released by Captain E.B. Purefov in the prepared area which has been known ever since as the "Copper Fields" (Compartments 37 and 39), (Committee, 1929). Although the following winter (1927-1928) saw an extensive and prolonged flood on the reserve. lasting for approximately 60 days (Purefoy, 1929), larval overwintering survival was good, and resulted in over 1000 adults on the wing in the summer of 1928. Although unrecorded, it is possible that Purefoy released further stock in order to reinforce this population on one or two occasions (see Duffey, 1968). Certainly, some females were subsequently re-captured in order to establish a captive stock, which has remained extant and resident on the fen to this day. It is noteworthy that 75% of the population were reported lost to Phryxe vulgaris Fallen. (Diptera: Tachinidae), and furthermore, two pupal parasites were identified; namely Pimpla brassicariae and Anisobas hostilis Grav. (Hymenoptera: Ichneumonidae) (Committee, 1929).

This introduction of *L. d. batavus* appeared to be successful, as the population survived until 1969, a total of 42 years. However, it did so under the auspices of careful and intensive population and habitat management. The larvae and pupae were protected from natural enemies by being kept in muslin cages, and the adults released after emergence. Also large numbers of *R. hydrolapathum* were planted out on the reserve, and areas of peat were "scraped" in order to create germination sites for the foodplants. Seed was scattered in these areas (Mason, Bowley, Harold and Duffey, *pers. comm.*; Duffey, 1968, 1971, 1977). The extinction of this population was attributed to severe summer floods in 1968 which drastically reduced oviposition because the foodplants were almost completely submerged and therefore obscured from ovipositing females (Duffey and Mason, 1970).

# 1930. Leckford, Near Stockbridge, Hampshire.

In 1930 John Spedan Lewis wrote to the Lepidoptera Protection Committee of the (Royal) Entomological Society asking for approval to establish  $L.\ d.\ batavus$  on his private estate. This approval was granted and a release apparently took place on the River Test, although no documentation was released, and the attempt was presumably unsuccessful (Oates and Warren. 1990).

# 1930. Wicken Fen, Cambridgeshire.

Twenty-two years after Verral's attempt at establishing L. d. rutilis at Wicken Fen, Captain E.B. Purefoy retried, this time using L. d. batavus.

Three acres of Wicken Fen were planted with docks during the winter of 1929/30 and "sufficient numbers" of "half-grown" *L. d. batavus* larvae were put out during May 1930 on marked plants. Unknown numbers were also released in 1931 or 1932. Interestingly, almost complete winter survival was recorded (Purefoy, 1931). Apparently a series of "bad seasons" reduced its abundance during the late 1930s, but it still survived in numbers on Adventurer's Fen. In fact the population survived until Adventurer's Fen was ploughed (in 1942) in order to plant potatoes during World War II.

### 1930. Lower Kennet Valley, Berkshire.

No information whatsoever is available concerning this attempt, apart from the fact that it apparently took place and that *L. d. batavus* was used (Oates and Warren, 1990).

### 1934. "Denmark".

A colony of *L. dispar* was known to exist in Denmark between 1934 and 1948. Bink (1970) presumed this to have been the result of an introduction, however it would appear possible that it was native *L. d. rutilis*, as the range of this subspecies includes neighbouring Germany (Settele, 1990; Ebert and Rennwald, 1991) and a single population, discovered in 1983, survives in Finland (Mikkola, 1991).

### 1939. Raamsloot, near Eernewonde, Friesland, The Netherlands.

The Dutch entomologist Dijkstra released 35 pupae and an unrecorded number of eggs of *L. d. batavus*. He also released "larvae" in 1940 at the same site. Apparently the population survived until at least 1955. Hydroseral succession in this marsh area (1000 ha) was deemed responsible for the population's eventual extinction (Bink, 1970).

# 1942. Greenfields, County Tipperary, Republic of Ireland.

L. d. batavus from the introduced population at Woodwalton Fen was released in 1942 by Captain E.B. Purefoy on the site which had been used for a previous establishment attempt with L. d. rutilis. This new colony persisted until 1955, when neglect of the marsh resulted in the habitat becoming unsuitable (Duffey, 1968).

# 1949. Wheatfen Broad, Yare Valley, Norfolk Broads.

In 1948 the Insect Protection Committee decided to try to establish a population of *L. d. batavus* in the Norfolk Broads. They believed it unlikely that the insect had survived the Second World War in Holland and moreover, Woodwalton Fen was then threatened with drainage. "Two dozen" larvae were released at Wheatfen Broad near Surlingham in the Yare Valley (Ellis, 1951). Furthermore, it was perceived that the site had advantages over Woodwalton Fen, because it was liable to shorter, less severe winter floods than those experienced at Woodwalton (Ellis, 1965). The colony apparently fared well until high tides inundated the area in April 1951 (Oates and

Warren, 1990), at a time when herbivory from the introduced coypu (*Myocaster coypus* L.) population was possibly contributing towards a decline in the abundance of the *R. hydrolapathum* foodplants (Ellis, 1965; see also Smith, 1995).

### 1964-65. County Down, Northern Ireland.

H.G. Heal tried to establish L. d. batavus at an undisclosed site in the province, although the attempt apparently failed because of inclement weather (Oates and Warren, 1990).

### 1970. Woodwalton Fen, Cambridgeshire.

In 1970 a large scale release was made to re-establish the Woodwalton *L. d. batavus* population using captive reared stock. In each of the next three years, 1971-73, the surviving fen population was augmented with further material from the captive stock, and in 1976 the distribution of eggs covered a wider area than any seen since the fen became a National Nature Reserve in 1953, owing to the improved management of additional compartments not previously managed for the butterfly (Duffey, 1977). Interestingly, Heath, Pollard and Thomas (1984) reported that an extant population existed on the fen in 1984, when all protection of spring larvae from natural enemies and population re-enforcements were ceased in 1979. However, any apparent initial success was short-lived, because although the population may have survived for a number of years, it experienced large annual reductions in size before reaching very low levels and eventually becoming extinct (Harold, and McLean, *pers. comm.*).

# 1987. Woodwalton Fen, Cambridgeshire.

A further large release of imagines was carried out in 1987, and observations of this population showed its behaviour to be comparable to that found by Duffey (1977), ie. again there were substantial annual reductions in size (McLean, 1991a, 1991b; Pullin, McLean and Webb, 1995). Unfortunately this latest attempt at re-establishing *L. d. batavus* on the fen was deemed a failure in 1994, with the lack of any sightings during that year. Interestingly, although the population experienced large annual reductions in size, as seen during earlier attempts at this site, it appeared to "bottom out, and indeed did survive for a number of years at a very low density. It was hoped that selection over the previous few seasons would favour the survival of the remaining few, however three consecutive inclement winters, with prolonged and extensive flooding, were probably responsible for the eventual demise observed (Bowley and McLean, *pers. comm.*).

However the captive population of *L. d. batavus* at Woodwalton Fen has in effect been unmanaged, with respect to conservation genetics, throughout its 68 year history, and so might be expected to suffer from problems relating to loss of genetic diversity, reduction of reproductive fitness and ability to survive in the wild. Nonetheless, there are possible ameliorative effects of the rather haphazard management of the Woodwalton captive

population. Firstly, for a large number of years, the population was kept outside, on the fen, in wire mesh cages designed to exclude natural enemies (Mason, pers. comm.) and so any adaptation to greenhouse conditions would be limited to more recent generations. Secondly, from time to time the captive population was mixed, albeit quite randomly, with individuals from the resident "wild" population on the fen (Harold, pers. comm.). Although this "wild" population was founded from the captive population, it was kept separate for many years and may have benefited from more "natural" selection pressures. Certainly the genetic status of the population at Woodwalton Fen remains in question, a conclusion which has been highlighted by recent studies (Webb, 1995; Webb and Pullin, 1996a, 1996b).

To our knowledge, the above list is probably as comprehensive as any could be, although it is possible that other establishment attempts were not published or publicised in any way, and so are not included here. For example, there was an unpublished attempt to establish L. dispar on a private estate at Ashton Wold, Cambridgeshire (M. Rothschild, pers. comm.). Furthermore. Oates and Warren (1990) record that "recent" attempts at establishment have taken place in the Dalby Marsh area of North York Moors, although no details are available. It is desirable to provide information as to whether any given establishment attempt constitutes an introduction or re-establishment, as this is a distinction important within conservation ecology (Oates and Warren, 1990; Morris and Thomas, 1990). However, debate around the historical distribution of L. d. dispar in the UK (see Webb, 1995), makes it impossible to make statements about individual sites. In effect, the only attempts that are without doubt de novo introductions are the Irish examples, and all others have taken place within the former biogeographical range, although an individual site may or may not have been formerly occupied.

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#### **BOOK REVIEW**

**Dragonflies of Surrey** by **Peter Follett**. 87 pages, 3 monochrome plates & 13 colour plates, numerous maps, several text figures. Hardbound. ISBN 0 9526065 1 8. Surrey Wildlife Trust, 1996. £12 plus £1.30 post and packaging from the Surrey Wildlife Trust, School Lane, Pirbright, Woking, Surrey GU24 0JN.

With this small book, Surrey joins the as yet exclusive band of counties that have their own regional dragonfly volume. As is stated in the Foreword by Don Tagg, this is not before time, since Surrey has one of the finest dragonfly faunas in Britain, with no less than 28 breeding species. The book lists no fewer than 44 sites in the county where 17 or more species are recorded - something few other counties could possibly rival.

The species accounts cover status, distribution (including tetrad maps), abundance and details of both past and current records. These accounts are evidently well researched and the information presented is clearly based upon data obtained in Surrey, and not slavishly copied from other, existing publications as so often is the case. The total number of records of each species is given along with the number of Surrey tetrads from which it is recorded, so enabling the reader to get a clearer idea of population density than is possible from maps alone. The author's efforts in obtaining an adequate coverage of the county are to be applauded and it is clear, also, that he has expended a good deal of effort in checking and verifying all the records so that what the reader is presented with is an accurate representation of the county's dragonfly fauna.

With all of the various threats to the survival of dragonflies and other insects with aquatic associations, it is also very pleasing to see that there is a good deal of emphasis on habitats and their conservation. Indeed, the publication of the book was, in part, funded by the Environment Agency (formerly the National Rivers Authority); such cooperation with the conservation movement is to be loudly applauded. To complete the picture there is a contributed chapter on fossil dragonflies by Ed Jarembowski and André Nel.

Dragonflies of Surrey is a model publication, well worth having even if the reader does not live in Surrey. Like its sister publication, Butterflies of Surrey by Graham Collins, reviewed earlier in this journal (antea: 97 - 98), it is well produced and well written, and is available at a sensible price. Had I not received a free review copy, it would feature near the top of the wants list that I prepare for Father Christmas every year!

Colin W. Plant

### LEPIDOPTERA IN THE SCOTTISH HIGHLANDS IN AUGUST 1995

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PROMPTED BY Dick Chatelain and Bernard Skinner's account of their visit to the Spey valley area entitled "Aviemore in August 1964" (Chatelain & Skinner, 1964), and encouraged by enthusiastic reports via Julian Clarke for 1993, it was decided that a visit to this area during mid-August might perhaps do our respective collections no harm at all. General accounts of trips to areas of entomological interest, which in the past have been a feature of *The Record* and a source of interest, information and inspiration, seem to have declined over recent years. It is hoped that this short article will encourage other entomologists to maintain old traditions in this everchanging world.

Proceedings commenced on Friday 11 August with arrangements to meet at Arnside Knott, Cumbria, in mid-afternoon, JP and RC travelling via Ferndown, Dorset and DY motoring from Reading via Dungeness to collect SC. The whole of the UK had been in the grip of a prolonged heatwave for some time and fortunately the favourable weather conditions were to continue un-broken throughout our week's stay north of the border.

On arrival at Arnside a brief look over the Knott revealed virtually nothing flying due to the extremely hot and dry conditions, *Erebia aethiops\** being very worn and almost over, the few remaining specimens being actively pursued by butterfly enthusiasts festooned with camera equipment. The same paucity of insects was also true at nearby Meathop Moss, Witherslack, with *Pieris napi, Scotopteryx chenopodiata* and *Autographa gamma* being the only species noted. After this somewhat disappointing start where better to revive our spirits than to retreat to that historically famous entomological watering hole "The Derby Arms" at Witherslack where, having found local overnight accommodation, and over an excellent alcohol-supplemented meal, the forthcoming campaign was planned with meticulous precision.

The base for our operations was to be a friend's rented bungalow situated at Drumguish, a small hamlet about three miles from Kinguisse on the B970 close to Loch Insh, and this was reached at about 2pm on the 12 August. The surrounding terrain is typical of the locality with pine and birch growing amidst areas of heather and bilberry. This location proved to be a wise choice as the garden traps produced many of the species that we hoped to see during our stay including *Aporophyla lueneburgensis*, *Paradiarsia sobrina*, *Lithomoia solidaginis*, *Eugnorisma depuncta* and *Enargia paleacea*. Having democratically concluded negotiations for sleeping and setting space, and allocated positions for the garden traps, no time was lost in exploring the

<sup>\*</sup> Authors of scientific names are listed in Appendix 1.

area. JP and RC repaired to Carrbridge where lights were run in an area of pine with extensive bilberry understorey, off the road leading to the railway station. Thirty-five species were recorded including a few *P. sobrina*, *E. depuncta* and *E. paleacea*. Meanwhile DY and SC simultaneously trapped at Lynwilg on a section of the old road running parallel to the A9 from Lynwilg towards Kinakyle. Whilst this site looked unpromising, being dominated by birch and bracken, a total of forty-six species were recorded notably *Gnophos obfuscata*, *E. depuncta* (20), *P. sobrina* (2), *Diarsia dahlii* (12), *E. paleacea* (8) and *Stilbia anomala* (3), numbers which were to be significantly increased on a return trip later in the week.

Our plans included two fairly long distance trips and a decision was made to do them early in the week whilst weather conditions remained ideal. The 13 August saw the team at Loch Arkaig, the main object being to locate *Perizoma taeniata* and *Colostygia olivata*, traps being run alongside the B8005 about one and a half to two miles west of Clunes and before reaching the Gleann Cia-aig waterfall in an area dominated by damp woodland, the stone walls and branches positively dripping with mosses and lichens. Disaster overtook SC when his generator gave up the ghost for the remainder of the week and thus a somewhat sombre mood prevailed. However in cloudy and fairly mild conditions thirty-five species were recorded including *C. olivata* (40) and *P. taeniata* (7) all of which were in a generally worn condition, and a fresh example of *Celaena leucostigma scotica*.

On the 14 August, taking advantage of the continuing hot weather, we motored northwards to the sand dunes at Findhorn near Forres, Morayshire. Readers of the original article mentioned earlier will appreciate the full range of weather conditions which can be experienced on this exposed site. We were fortunate to find it clear, mild and dry although a persistent breeze meant that the traps had to be sited in the shelter of the dunes and low vegetation. Concrete bollards now prevent vehicular access along the dune system and consequently equipment had to be carried some distance into the dunes. Forty-one species were recorded, some of the more notable being Euxoa cursoria which was common (30+), S. anomala (common) and a single Actebia praecox in good condition. Of particular interest was Noctua comes which was common and included a predominance of the reddishbrown and black forms, well known from this locality. A number of females were retained for breeding and numerous batches of fertile ova obtained after several days of careful care and nurture. Bred examples, showing the full range of colour variation, were obtained during the autumn and winter of 1995.

The 15 August saw us back at Lynwilg where a further eleven species were added to the list recorded on the 12 August. *E. depuncta*, *S. anomala* (both sexes) and *E. paleacea* were quite common and several specimens of *P. sobrina* were recorded, almost all chipped, torn and worn. By this date the

first specimens of Antitype chi and A. lueneburgensis were being recorded in the garden traps at Drumguish so we decided to make the trip southwards to the high moorland area east of Trinafour, Perthshire on the 16 August where Julian Clarke had recorded impressive numbers of the latter species in 1993. Weather conditions were good for this high and exposed site, where wind and rain are no doubt the norm, with a light breeze, dry but cool and clear. Results were however generally disappointing: Lithomia solidaginis being fairly common, A. lueneburgensis in small numbers and single examples of Trichiura crataegi, Entephria flavicinctata and Apamea zeta assimilis. In addition three Epirrita filigrammaria came to light but a thorough search of the heather, particularly by SC, surprisingly failed to produce any further examples of this sought-after species. Sweeping the heather produced large numbers of larvae of assorted species.

After our efforts over the previous few days it was decided to stay nearer base camp on the 17 August. A daytime visit to the Loch Morlich/Coylumbridge area produced numerous larvae of Thera juniperata scotica beaten from the wild juniper bushes, however they were exceedingly small. Pupa were duly obtained and a few moths emerged later in the year but many others seem to be delaying emergence until 1996. Searching stone walls near Insh failed to locate examples of A. chi, perhaps the hot weather prompting them to hide away in cooler places rather than to rest in more exposed positions. One larva of Rheumaptera hastata nigrescens was found by RC spun up in the terminal shoot of bog myrtle. E. aethiops was common both in fields and along roadside verges. The results of the prolonged drought were evident with rivers at a low ebb, mountain streams virtually dry and many trees showing signs of stress. This was particularly so with the aspens at Feshiebridge which looked to be in a poor state. Night operations centred on the extensive areas of birch, heather and bilberry on both sides of the B970 running between Drumguish and Kinguisse. Reasonable weather conditions prevailed but there were no surprises amongst the forty-four species recorded. P. sobrina was again in evidence as were A. lueneburgensis, E. depuncta, A. chi and numerous L. solidaginis. A second example of C. leucostigma scotica was noted amongst prodigious numbers of Celaena haworthii.

By Friday 18 August the stamina of virtually all concerned was beginning to fall having trapped every night since our stay, and certainly JP and RC felt that a good night's sleep would not go amiss, although the other two insomniacs were to have other ideas. Daytime activity encompassed a trip to the quarry near Dalwhinnie to search for larvae of *Eupithecia distinctaria constrictata*, and to Lynchat for *Eupithecia valerianata*. Neither search was successful, the larvae having pupated somewhat earlier than might have been expected, no doubt another effect of the hot summer for which 1995 will be long remembered. Searching stone walls once again failed to locate *A. chi* 

but more success was obtained during the day, and early the following morning, by searching the white-washed, and well-illuminated, walls and toilet block at the Highland Folk Museum near Newtonmore. How would British entomology have evolved without white-washed walls and toilet blocks one wonders.

Total exhaustion now having set in, and it being our last evening before returning south, it was agreed that a modest evening celebration dinner might be in order. The chosen venue was "The Tipsy Laird" in the High Street, Kinguisse, which despite its somewhat unimposing exterior is to be thoroughly recommended. On entry one pair of species we had not expected to encounter was Mr and Mrs Peter Baker on holiday in the area, a nice surprise. In the evening SC, who appeared to have some energy left, trapped near Lynchat in an area of lush vegetation near a small loch, hoping to record further specimens of C. leucostigma scotica. Despite reasonable weather conditions this species was not recorded and no new species were added to the total tally for our trip. As we were continuing to run the garden traps up to the very last moment DY very sportingly volunteered to check the traps at regular intervals throughout the night for by now the local bird population, supplemented by several frogs, had detected an easy source of food and it was obvious that a considerable number of moths were being consumed well before the traps were checked in the mornings.

Very few species of microlepidoptera were recorded during our stay and the Pyralidae were represented only by such familiar species as Agriphila straminella, A. tristella, Eudonia truncicolella, Pyrausta purpuralis, Udea lutealis, Aphomia sociella, Pyla fusca and Dioryctria abietella. A total of 106 species of macrolepidoptera were recorded during our week in Scotland at the various sites visited, of which some 85 species were recorded at Drumguish where six traps run for seven consecutive nights gave saturation coverage, not to mention additional illumination for nearby barbecues. We had seen all the species that we had hoped and much else besides. Chloroclysta citrata citrata was everywhere abundant and in a variety of beautiful forms, as noted by Dick Chatelain and Bernard Skinner. Almost as abundant, widespread and variable were the moorland forms of Eulithis testata and Hydriomena furcata. Other species of interest included Xanthorhoe fluctuata f. thules with examples at Drumguish and Newtonmore; Plemyria rubiginata plumbata and Aplocera plagiata scotica both from Drumguish; very dark forms of Xestia xanthographa; Autographa bractea and Syngrapha interrogationis. A complete list of the species recorded has been sent to Keith Bland in the hope that the records, even from well-worked areas, will be of some use to Scottish entomologists.

All good things must come to an end and therefore reluctantly on 18 August we travelled south for home and, would you believe it, on the way down the A9 it actually rained!

#### References

Chatelain, R. & Skinner, B., 1964. Aviemore in August 1964. Entomologist's Record and Journal of Variation 76: 234-235.

Bradley, J.D. & Fletcher, D.S., 1979. A Recorder's Log Book or Label List of British Butterflies and Moths. Curwen Books, London.

### Appendix 1: Species recorded at the principal sites visited, August 1995.

Key:

1744

17521754

E. caesiata D.&S. Cosmorhoe ocellata L.

Eulithis prunata L.

Site A: Site B: Site C: Site D: Site E: Site F: Site G: Site H:	Drumguish, Nr. Kinguisse, East Inverness-shire Lynwilg, Nr. Aviemore, East Inverness-shire Carrbridge, East Inverness-shire Nr. Loch Arkaig, West Inverness-shire Findhorn, Morayshire Trinafour, Perthshire Drumguish Heath, Nr. Kinguisse, East Inverness-shire Lynchat, Nr. Kinguisse, East Inverness-shire										
Log Num	bers are taken from Bradley & Flet	cher (1	979)								
Log No:	Species	Sites	A	В	С	D	Е	F	G	Н	
Pyralida	e										
1304	Agriphila straminella D.&S.		*	*					*		
1305	A. tristella D.&S.		*			*	*	*	*		
1340	Eudonia truncicolella Stt.					*	*				
1388	Udea lutealis Hb.		*								
1428	Aphomia sociella L.			*							
1451	Pyla fusca Haw.			*							
1454	Dioryctria abietella D.&S.	-	*								
Lasiocan	npidae										
1632	Trichiura crataegi L.							*			
	3										
Geometr	idae										
1713	Idaea aversata L.			*							
1722	Xanthorhoe designata Hufn.		*	*							
1723	X. munitata munitata Hb.		*								
1727	X. montanata montanata D.&S.		*								
1728	X. fluctuata L.		*	*		*	*				
	X. thules Prout		*								
1732	Scotopteryx chenopodiata L.						*				
1734	S. luridata plumbaria Fabr.		*					*			
1738	Epirrhoe alternata alternata Mull		*	*		*					
1742	Camptogramma bilineata bilineat	a L	*	*		*	*		*	*	
1743	Entephria flavicincta ruficinctata	Guen.						*			
4511	F 1 D 0.0		-1-	-1-	e) e	nt.		424			

Log No:	Species S	Sites	A	В	С	D	Е	F	G	Н
1755	E. testata L.		*	*	*		*	*	*	*
1756	E. populata L.		*	*	*	*	*	*	*	
1758	E. pyraliata D.&S.					*				
1760	Chloroclysta siterata Hufn.								*	
1762	C. citrata citrata L.		*	*	*	*		*	*	*
1765	Cidaria fulvata Forst.		*							
1766	Plemyria rubiginata plumbata Curt.		*							
1767	Thera firmata Hb.		*	*	*					
1768	T. obeliscata Hb.		*	*		*				
1770	T. cognata Thunb.		*	*	*					
1774	Colostygia olivata D.&S.			*		*				
1776	C. pectinataria Knoch.		*	*		*			*	
1777	Hydriomena furcata Thunb.		*	*	*	*		*	*	*
1798	Epirrita filigrammaria HS.							*		
1801	Perizoma taeniata Steph.					*				
1809	P. didymata didymata L.		*	*	*	*	*	*	*	*
1811	Eupithecia tenuiata Hb.						*	-		
1854	E. pusillata pusillata D.&S.		*	*	*				*	*
1866	Carsia sororiata anglica Prout.		*						*	*
1867	Aplocera plagiata scotica Rich.		*	*						
1873	Venusia cambrica Curt.					*				
1906	Opisthograptis luteolata L.		*	*						
1907	Epione repandaria Hufn.		*							*
1913	Ennomos alniaria L.					*	*			
1921	Crocallis elinguaria L.		*	*	*	*	*			
1937	Peribatodes rhomboidaria D.&S.				*					
1941	Alcis repandata repandata L.		*			*				
1962	Hylaea fasciaria L.		*							
1963	Gnophos obfuscata D.&S.		*	*						
1703	Gnophos vojusculu D. 25.									
Cultingid	la a									
Sphingid			*							
1981	Laothoe populi L.									
Notodon										
2011	Pterostoma palpina Cl.			*						
Noctuida	ne									
2081	Euxoa tritici L.		*	*	*		*		*	*
2082	E. nigricans L.		*	*	*		*		*	*
2083	E. cursoria Hufn.						*			
2085	Agrotis vestigialis Hufn.						*			
2099	Actebia praecox L.						*			
2102	Ochropleura plecta L.			*						
2103	Eugnorisma depuncta L.		*	*	*				*	*
2107	Noctua pronuba L.		*	*	*	*	*	*	*	*
2109	N. comes Hb.		*	*		*	*	*		
2111	N. janthe Borkh.		*	*	*	*	*		*	
2114	Graphiphora augur Fabr.		*	*			*			

Log No:	Species	Sites	A	В	C	D	Е	F	G	Н
2116	Paradiarsia sobrina Dup.		*	*	*				*	
2117	P. glareosa glareosa Esp.		*	*	*		*	*	*	*
2118	Lycophotia porphyrea D.&S.		*		*					
2120	Diarsia mendica mendica Fabr.		*	*	*			*		
2121	D. dahlii Hb.		*	*	*	*	*		*	*
2130	Xestia baja D.&S.		*	*	*	*			*	*
2132	X. castanea Esp.		*	*	*			*	*	
2134	X. xanthographa D.&S.		*	*	*	*	*		*	*
2135	X. agathina agathina Dup.		*	*			*	*	*	*
2160	Lacanobia oleracea L.		*						*	
2164	Hecatera bicolorata Hufn.						*			
2176	Cerapteryx graminis L.		*	*	*	*	*		*	*
2192	Mythimna conigera D.&S.			*			*			
2193	M. ferrago Fabr.			*	*					
2198	M. impura scotica Cock.		*				*			
2199	M. pallens L.						*			
2225	Brachylomia viminalis Fabr.		*	*			*	*	*	
2231a	Aporophyla lueneburgensis Freyer		*					*	*	
2232	A. nigra Haw.		*							*
2233	Lithomoia solidaginis Hb.		*		*			*	*	
2254	Antitype chi L.		*	*					*	
2268	Parastichtis suspecta Hb.		*	*	*			*	*	*
2273	Xanthia togata Esp.		*							*
2274	X. icteritia Hufn.		*	*					*	*
2299	Amphipyra tragopoginis Cl.		*			*		*		
2303	Thalpophila matura Hufn.						*			
2313	Enargia paleacea Esp.		*	*	*					
2318	Cosmia trapezina L.		*	*						
2321	Apamea monoglypha Hufn.		*	*	*	*	*	*	*	*
2324	A. zeta assimilis Doubl.		-					*		
2329	A. furva britannica Cock.		*	*						
2342	Mesoligia literosa Haw.		*	*			*			
2343	Mesapamea secalis L.		*	*			*			
2353	Luperina testacea D.&S.		*				*			
2357	Amphipoea lucens Freyer		*	*	*				*	*
2359	A. crinanensis Burr.		*		*		*		*	
2361	Hydraecia micacea Esp.		*	*		*	*		*	*
2367	Celaena haworthii Curt.		*	*			*	*	*	*
2368	C. leucostigma scotica Cock.					*			*	
2394	Stilbia anomala Haw.		*	*	*	*	*		*	
2434	Diachrysia chrysitis L.		*		*					
2439	Plusia festucae L.		*							
2442	· · · · · · · · · · · · · · · · · · ·		*	*		*		*		
2442	Autographa pulchrina Haw. A. jota L.		*							
2443	A. Joia L. A. bractea D.&S.		*	*						
2444	Syngrapha interrogationis L.			*	*				*	*
2447			*			*				
2409	Scoliopteryx libatrix L.  Hypena proboscidalis L.		*		*					
2411	Trypena probostiauns L.									

#### From the Editor's chair ...

With this page, we come to the end of Volume 108 of the *Journal*, my first as Editor. This seems an opportune moment for a few comments. Most important, when I took over from Paul Sokoloff at the beginning of this year, I omitted to thank him for his efforts over the previous ten years. I must put that right now: Thank you Paul, for a job well done. We also have a new Treasurer in the form of Colin Penney, who took over from Paul Johnson during the course of the year. We are grateful to this Paul for his efforts over several years. Colin Penney's former tasks as Registrar are now taken over by Roy McCormick, whilst David Wilson has also joined the team as Official Photographer.

Inevitably, with all these changes, there have been some changes in the way things are done. On the administrative front, we have introduced payment by Standing Order; we hope that as many subscribers as possible will take advantage of this new facility by completing the enclosed form. You will also notice that we have managed to avoid any increase in subscription. We see no need to raise this unless we are failing to cover costs. However, we are not exactly rolling in money and it is likely that the rates will have to increase at the end of 1997 unless we can boost our funds considerably. 1997 subscription rates are minimum figures; the enclosed form also has a space for you to make a donation and invites you to take out a gift subscription for a friend. We need to increase our circulation by a couple of hundred to stave off drastic subscription increases.

As far as the publication itself is concerned, I can, of course, only publish what I am sent. I receive a steady flow of papers and short notes, but more are always welcomed, especially the short notes which, because they fill in spaces between larger papers, are usually published within two or three months of receipt (if accepted by the referees). The time delay between receipt of a larger paper and its publication is less than a year at present. All papers are subjected to peer review before acceptance - there are no exceptions!

The inclusion of two sets of colour plates in 1996 was principally the result of generous sponsorship from our advertisers. Comments received suggest that colour plates are popular and we hope to publish at least one set each year in future volumes if suitable material is submitted. We are able to generate high quality photographs from specimens provided by authors. Colour plates are horrendously expensive, however (about £800 for a centrefold of four plates in one issue), and we need further sponsorship if we are to do this. I would be very pleased to hear from potential advertisers or, indeed, from any person or organisation that may care to sponsor an entire single issue of the *Record*. Your comments on all this, and any other aspect of the journal, are positively welcomed at the editorial address.

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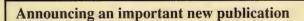
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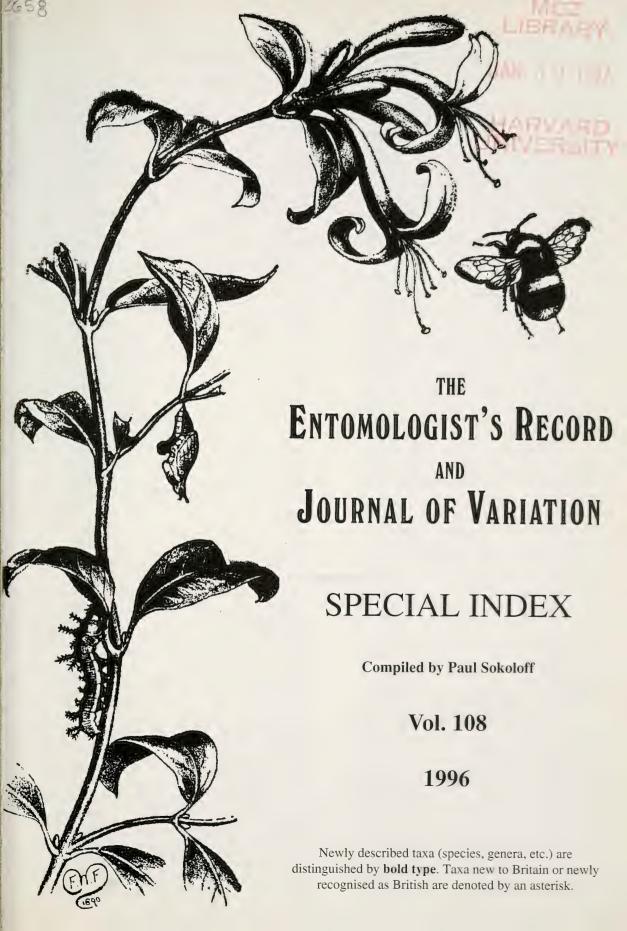
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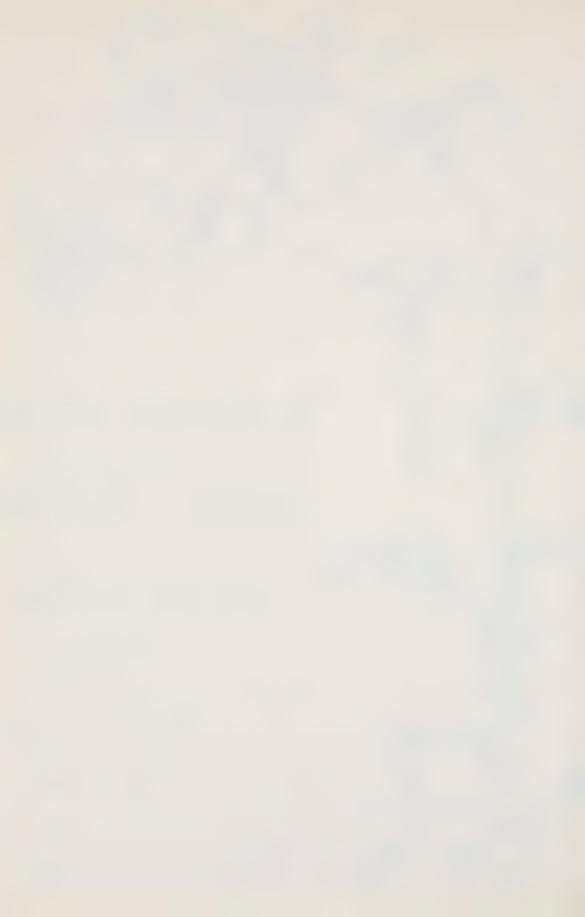
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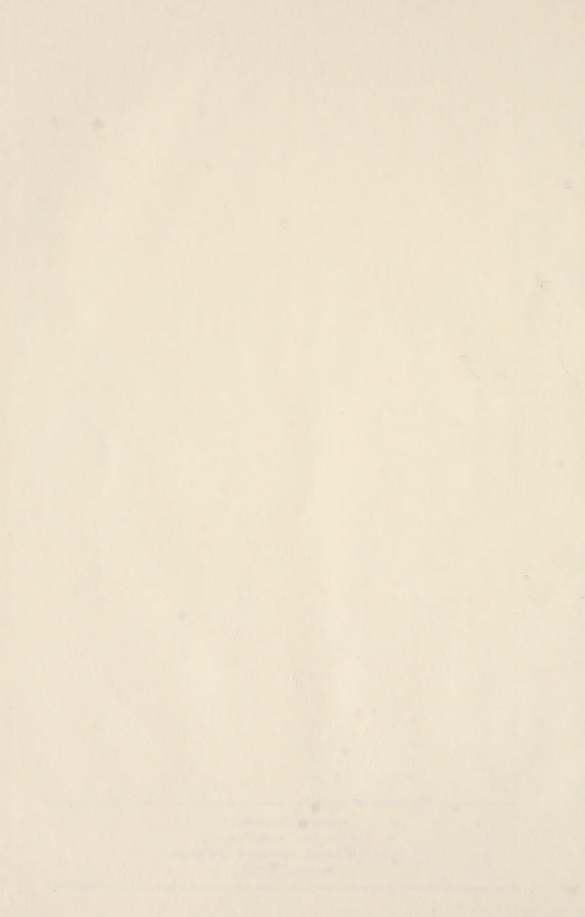
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Printed in England by Cravitz Printing Company Ltd. 1 Tower Hill, Brentwood, Essex CM14 4TA. Tel: 01277-224610





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